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ABSTRACT

The objective of this document is to make recent master's theses known to professionals and students who may profit from the work of colleagues. The compilation is also intended to serve as an indication of the current nature of graduate education in the field. Included in the compilation are sections covering site analysis; park users and interpreters; media communications; pupil-centered studies; citizen-centered studies; teacher-centered studies; resources, administration, and others; and a section presenting brief descriptions of selected graduate programs in environmental communications in the United States. Each thesis description includes the author, date of completion, institution, department or program, thesis advisor, address of author, availability of thesis, and an abstract. (RE)

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ED191655

Recent Master's Thesis Work in Environmental Education and Communications

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NATIONAL INSTITUTE OF EDUCATION

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Prepared for the National Association for Environmental Education
April 1980

SE 030 164

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Copies of this volume, the 1978 and the 1979 volumes are available through: NAEE, P.O. Box 400, Troy, Ohio 45373 for $5.00; or ERIC/SMEAC, Ohio State University, 1200 Chambers Road, 3rd Floor, Columbus, Ohio 43212. The 1978 volume is no longer available through ERIC; the 1979 volume is available from ERIC and is listed as ED 180 779.

If you wish to contribute to future publications, please contact Dr. David L. Hanselman, NAEE Thesis Project Director, 301 Illick Hall, SUNY-ESF, Syracuse, NY 13210.

INTRODUCTION

This is the third annual compilation of master's theses in environmental education and communications. It is the product of the cooperative efforts of the National Association for Environmental Education, The State University of New York: College of Environmental Science and Forestry, and Educator's Resource Information Clearinghouse (ERIC). Our objective again this year is to make these recent master's theses known to professionals and students who may profit from the work of colleagues. Further, we believe this compilation serves as an indication of the current nature of graduate education in the field.

The problems of identifying all of the institutions offering graduate programs in environmental education and communications is not fully resolved. We continue to solicit information from colleges that we may have inadvertently passed over. During November, 1979, letters and abstract reporting forms were mailed to 127 graduate departments in environmental education, park administration, natural history interpretation, environmental studies, communications, journalism, and other potentially related fields. The letters requested that theses or project abstracts concerning environmental education or communications be returned on thesis reporting forms. The letters were deliberately written to solicit responses from a broad range of fields in which work related to environmental education might be done. We regret that not all abstracts received were appropriate for our publication and therefore not included.

Although the letters requested abstracts for work completed in 1979, some of the abstracts sent in were for work completed earlier, but were not reported in the 1978 or 1979 compilation. These have been included in this collection. A total of 112 abstracts from 21 institutions are reproduced here. They have been organized into seven catagories: 1) Site Analysis--descriptions and development plans for areas to be used for environmental education; 2) Parks and Camps: Users and Interpreters--studies dealing with parks and camp programs, especially user characteristics and interpretive techniques; 3) Media Communications; 4) Pupil-Centered Studies--research dealing with attitude changes, effectiveness of pedagogical techniques, and learning characteristics of pupils; 5) Teacher-Centered Studies--research focussing on the training, attitudes, and behavior of teachers and interpreters; 6) Citizen-Centered Studies--research dealing with the attitudes, values, and involvement of citizens in environmental problems; and 7) Resources, Administration and Others--studies dealing with environmental education policy, administration and philosophy, as well as some experimental studies which could not be placed in other categories. The number of citizen-centered studies warrented creation of a new category and indicates the growth of the environmental education and communications in this area.

At the suggestion of several NAEE members, we added another service in 1979 that we have continued in this volume: All institutions contacted were asked to submit a brief statement describing their graduate program in environmental education and communications. Again, while some institutions may have been missed, and several known program leaders did not respond, we believe that this listing and the descriptions will be of value to both faculty and students.

We feel this project has good potential for continued growth in the years ahead but this depends on the willingness of the people supervising graduate work in environmental education and communications to cooperate. The response this past year has been extremely encouraging. The number of abstracts and program descriptions received was double that of previous years. For those who contributed this year, we wish to express our heartfelt thanks

Dr. David L. Hanselman
Project Director

Barbara J. Hoefler
Editor

1. Site Analysis

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Guide to Selected Natural Sites for Day Field Trips - San Francisco Bay Region

AUTHOR : Hawley, Beverly Jane DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.g.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The purpose of this project was to develop a field trip guide to selected natural sites within the San Francisco Bay Region. The guide is for day field trips and is primarily aimed at grades four to eight. The sites included are in natural or nearly natural condition and are keyed to the biotic zones defined and displayed at the Natural Science Division of the Oakland Museum.

Data for the included sites were obtained by personal visits to the sites and interviews with members of the staffs at the sites. Commentaries for the sites were written and sent to the personnel at the sites for review and corrections where necessary. Supplemental information regarding the definition of the biotic zones and communities as well as suggestions concerning the conduct of field trips are included.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Educational Survey of Mendonca Ranch, East Bay Municipal Utility District

AUTHOR : Collett, Paul F. DATE OF COMPLETION 1976

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

This survey presents a detailed description of a portion of land belonging to East Bay Municipal Utility District in Castro Valley, Alameda County, California.

The purpose of this investigation of the Mendonca Ranch Site was to determine the feasibility of opening it to use by public school students as a Project Study Site for environmental education.

The site was studied with respect to its history, topography, geology, paleontology, and natural history. The site contains an abandoned ranch complex which dates to the turn of the century. By using this area students could participate in historical living experiences. Mendonca Ranch was divided into seven study areas, and the project lists educational experiences which could be taught in each area.

Mendonca Ranch meets all the criteria specified by the author of the paper, as well as the criteria of the writers of two recent studies on site selection for desirable environmental, ecological and conservation education sites for either day or overnight use.

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Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : AN INTERPRETATION CONCEPT PLAN FOR COLD LAKE PROVINCIAL PARK

AUTHOR : W. J. McMILLAN DATE OF COMPLETION 1977

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR : W. Jamison

ADDRESS OF AUTHOR : 10360 - 108 Street
EDMONTON, ALBERTA T5J 1L8

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

This study provides a broad inventory of the physical, historical and social feature of a new provincial park located on a peninsula in Cold Lake. It also provides an analysis of appropriate interpretive methods; and an interpretive concept plan for the park. The park is intended to primarily serve local residents. Interpretive potential is high with a wide range of habitats, and several historical sites including an Indian encompment, a burial area and an early fur trade route.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : WEST END PARK

AUTHOR : P. BOND DATE OF COMPLETION 1975

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

Essentially this study outlines the steps taken in proposing a design plan for a park on a 0.9 acre site on the west side of 7th Avenue and between 7th and 8th Avenues S.W. in Calgary. A strong case is made for the numerous benefits that would result from this park.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : NOSE HILL: A RESOURCE STUDY

AUTHOR : B. EDWARDS DATE OF COMPLETION 1973

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

This study concerns itself with the issue of open space development in the City of Calgary - namely the case of Nose Hill. An examination is given to the natural features of the hill indicating the unique character of the hill as well as discussing the future of Nose Hill from a regional and city-wide perspective. A proposal calls for a combined wildlife park and outdoor recreational uses.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : AN INTERPRETIVE SYSTEM FOR THE BANFF MALL: A PROPOSAL

AUTHOR : R. ASHBURNER DATE OF COMPLETION 1977

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

This report proposes the creation of a comprehensive interpretive facility, integrated with commercial and retail facilities along the project year round pedestrian mall along Banff Avenue. The report suggests five major themes and develops two alternative display techniques for the information.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : MANAGEMENT OF VEGETATION, WILDLIFE AND RECREATION IN THE WEST BLOCK, CYPRESS HILLS PROVINCIAL PARK, SASK.

AUTHOR : E. G. McGREGOR DATE OF COMPLETION 197-

INSTITUTION : UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR : V. GUEST

ADDRESS OF AUTHOR : #706, 2121 - 15 Avenue
Regina, Saskatchewan S4P 1A1

WHERE FULL THESIS IS AVAILABLE : FACULTY OF ENVIRONMENTAL

This study reviews the process of land use planning in the park and develops a series of management objectives. Guidelines and policies are recommended to assist in preparation of vegetation, wildlife and recreation management plans for the West Block of the park.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : KANANASKIS VALLEY VILLAGE

AUTHOR : R. HELTON DATE OF COMPLETION 1977

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL

This project develops a recreational village concept at Evans Thomas Creek in the new "Kananaskis Country" provincial park west of Calgary. The group proposes a design concept which recognizes the unique character of the area and reinforces the singular nature of the site. The location was given from the Master Plan of the park. However, the more detailed investigation done by the group led them to suggest that while the area at Evans Thomas could be developed as a village, there were good reasons to support the location of the village at an alternate location near Ribbon Creek.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Guide to Designing Accessible Outdoor Recreation Facilities

AUTHOR : David E. Jasperse DATE OF COMPLETION July 6, 1979

INSTITUTION : University of Michigan

DEPARTMENT / PROGRAM : Environmental Education/Outdoor Recreation

THESIS ADVISOR : Dr. William B. Stapp and Dr. S. Ross Tocher

ADDRESS OF AUTHOR : ~~4821 Duvarney 2309~~ 4821 Duvarney Apt. 227
Lansing, Michigan 48910

WHERE FULL THESIS IS AVAILABLE : Lake Central Regional Office
Heritage Conservation and Recreation Service, Federal Building, Ann Arbor, Michigan 48107

The purpose of the thesis is to increase the awareness of outdoor recreation managers, planners, and maintenance personnel to various considerations for making outdoor recreation facilities accessible to and usable by all of us. The problem is that the design and construction of facilities at most outdoor recreation areas do not reflect an attitudinal sensitivity to and awareness of senior citizens, children, pregnant women, wheelchair users, and others who are not an 'average adult'. The publication uses examples of existing accessible outdoor recreation facilities to create guidelines for constructing campgrounds, trails, swimming pools, playgrounds, and other common outdoor recreation facilities. Historical areas are included in a seperate section. The conclusions emphasize the need for creating facilities that reflect various levels of accessiblity in order to allow a person a range of choices for meeting his/her recreational needs.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Survey of bicycle trail potential in Uwharrie National Forest

AUTHOR : Karen S. Sullenger DATE OF COMPLETION May 1979

INSTITUTION : Duke University

DEPARTMENT / PROGRAM : School of Forestry and Environmental Studies

THESIS ADVISOR :

ADDRESS OF AUTHOR : Box 213, Hampstead, MD 21074

WHERE FULL THESIS IS AVAILABLE : Room 208, School of Forestry & Environmental Studies, Duke University

Bicycling has captured the enthusiasm of the energy conscious, the athletically inclined, the leisure time recreationist, and the economy minded. Potential demand for cycling facilities has put increased pressure on planners in urban areas and on public lands to provide adequate, safe bikeways. Within North Carolina, efforts began in 1970 to identify, quantify and define the cycling population, the present trails capacity and future trails possibilities. The Uwharrie Mountains were chosen were chosen as a focal point for the study because they are surrounded by the state's major population centers. The superintendent of Uwharrie National Forest felt that a bikeway on a national forest would benefit the state and the national recreation program. The plan was to survey several alternatives and choose the one that best complements the state's objectives, attracts cyclists in its own right, and adds to the recreational use of the forest as a whole.

First under consideration is an overnight camping facility. A safer, off-road trail as an alternative to the state's route that would connect with the campground is proposed. Several possibilities for future trails through the forest as a change of pace or as interpretive trails for education in forest management practices are discussed.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Establishing a School Nature Area in an Urban Environment, a Guide for Teachers

AUTHOR : Oliver, Janice E. DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

How can a successful nature area be established on a school grounds? To answer this question the author prepared a guide using information obtained from three main sources: first, from a series of meetings held on nature areas by the California Native Plant Society in Sacramento, California over a period of two years; second, from the class work and research at California State University, Hayward; third, from the planning, construction, and use of Maloney Nature Area.

The guide assists in the following areas:

1. Defines ways to acquire faculty, parent, and community support;
2. Provides ideas for plot plans;
3. Offers ideas for funding;
4. Points out strategies for teachers to use in the construction of the area;
5. Provides lists of useful materials;
6. Acquaints the teacher with an overview of main California plant communities, animal communities, and rock types;
7. Makes evident major problems; and
8. Provides selected references to written materials and groups concerned with nature areas and related subjects.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Recommendations for the Design of an Outdoor Nature Area at Willow Creek School

AUTHOR : Brekke, Gail A. DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, & Environmental Education Lab.

The purpose of this study is to develop recommendations for the design of an outdoor nature area at Willow Creek Elementary School in Concord, California. The study shows how students, faculty, parents, community agencies and organizations can be involved in planning the nature area.

The methods used in this study were to gain information and background by reading about school nature areas; to develop a questionnaire given to the faculty, parents, and students of Willow Creek School; to develop a nature area visitation inventory; to conduct interviews and visitations with people involved with school nature areas; to contact agencies and organizations to find out what types of help could be obtained; and to formulate a nature area planning committee to finalize the design for the nature area.

One of the most important findings in this study was that over 70% of the faculty, parents and students agreed that there is a need for a nature area at Willow Creek School. The recommendations for the design include a discussion of the following factors: location, water systems, topography, plants, nature trail, tables and benches, garden plots, teaching stations, water area and maintenance. The nature area should be accessible to the entire Willow Creek community. As many persons as possible should be encouraged to participate in the final planning and eventual construction of the nature area.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A DECISION-MAKING PROCESS FOR ANALYZING WILDERNESS CAMPSITE RESOURCE IMPACT IN KEJIMKUJIK NATIONAL PARK

AUTHOR : I. D. Clarke **DATE OF COMPLETION** expected March, 1980

INSTITUTION : University of New Brunswick

DEPARTMENT / PROGRAM : Forest Resources

THESIS ADVISOR : Professor A. T. Easley

ADDRESS OF AUTHOR : Department of Forest Resources, University of New Brunswick, Box 4400, Fredericton, New Brunswick E3B 5A3

WHERE FULL THESIS IS AVAILABLE : Harriet Irving Library, Interlibrary Loans, Box 4400, Fredericton, New Brunswick E3B 5A3

This study was done to help answer the question: "How much visitor use is too much" in Nova Scotia's Kejimkujik National Park's backcountry? Different variables studied were: tree and lesser vegetation; site size; soil litter, humus depths; soil nutrients; and water quality. Photographic documentation was compiled for each of the sites. A decision-making scheme was drawn up whereby six variables could be used as indicators of the level of impact of a site. Each indicator was divided into five values representing the level of use. The six indicators were: soil nutrients, litter depth, bareground, increase in site size, tree damage, and site history. By averaging the values, an impact level could be determined for each site and management practices could be employed, either in relation to the visitor or the resource.

Key words: carrying capacity, decision-making, primitive campsites, resource management, visitor management.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Resource Inventory and Management Plan for the Nyika National Park, Malawi

AUTHOR : Thomas A. Mill **DATE OF COMPLETION** 18 April 1979

INSTITUTION : The University of Calgary

DEPARTMENT / PROGRAM : Faculty of Environmental Design

THESIS ADVISOR : Dr. V. Geist

ADDRESS OF AUTHOR : 805 Harris Place NW, Calgary, Alberta, Canada T3B 2V4

WHERE FULL THESIS IS AVAILABLE : Faculty of Environmental Design, University of Calgary, Calgary, Alberta, Canada T2N 1N4

An ecological research project was conducted in the Nyika National Park, Malawk, during 1975 and 1976. The project was directed to compiling an inventory of park resources and establishing an ecological monitoring programme. The purpose of the work was to provide the information for devising a resource management plan for the park. Data were gathered on the human, physical and biological resources in the park and adjacent areas. Subsequent analysis, interpretation and the preparation of a resource management plan were performed at the University of Calgary, Canada, during 1977 and 1978. The park is described, and the management policies of the Department of National Parks and Wildlife, Malawi, are detailed and discussed. Results are reported for studies of: soil chemistry, climate, hydrology, vegetation distribution, incidence and impact of fire, and large mammal populations. Reviews are presented for archaeological, geological and terrain studies undertaken by others. Lists of plants, reptiles, amphibians, birds and mammals are presented in appendices. Fire, destruction of montane evergreen forests and resource harvesting are the major management concerns identified and discussed. The implications of island biogeography for resource management are explored. Management policies and objectives are discussed, and operational specifications for the Nyika National Park are suggested.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Developing Curriculum for the Outdoor Nature Center

AUTHOR : Allen, Robert E. DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization E.E.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, and Environmental Education Lab.

The purpose of this project is twofold: first, to construct a curriculum guide for the use of an outdoor nature area at Bancroft Elementary School, Walnut Creek, California; second, to develop a series of interdisciplinary task cards employing a process approach to learning.

The need for the project grew out of a concern this writer had while trying to integrate environmental studies into the curriculum at the elementary school level.

The information and curriculum ideas in this project are intended to be helpful to those interested in implementing an outdoor education program on their own school site.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Proposed Master Plan for an Environmental Education Center at Sugar Pine Point State Park, Lake Tahoe

AUTHOR : Bishop, Gerald E. DATE OF COMPLETION 1977

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: McHugh Reading Center, Environmental Education Lab.

This project is the development of a proposed master plan for an environmental education center in the Tahoe Basin at Sugar Pine Point State Park. If adopted, the environmental education center would be a joint venture between the California Department of Parks and Recreation and the California State Universities and Colleges. The center would serve as a day-use site for the general public visiting the area; a day or resident camp for elementary and secondary students; a facility to train college students, teachers and park personnel in environmental education; and as an area to perform research related to the Tahoe environment. The environmental education center would also conduct workshops, hold conferences, and provide housing for the consortium library.

Relatively little has been written about environmental education centers and a formal definition for an environmental education center was not located. The procedure for developing the proposal was to seek approval from the State Park's Sierra Regional Office and Department of Education; to interview California State University, Hayward, faculty and administration; to use the California State University, Hayward, Library, State Government Library, Computer Search by SMERC and State Library; and to seek help from government and private agencies and existing environmental education centers.

As a result of this study, it is clear that Sugar Pine Point State Park would make an ideal site for an environmental education center. Relatively little new construction is required, and renovation of existing buildings which are presently empty would meet most of the environmental education center needs.

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Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A PROPOSAL FOR A TRAIL PLANNING METHODOLOGY: A CASE STUDY: THE GREAT DIVIDE TRAIL

AUTHOR : B. DEEG DATE OF COMPLETION 1976

INSTITUTION : UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR : 57 FAIRLIN DRIVE
ISLINGTON, ONTARIO M9B 4J4

WHERE FULL THESIS IS AVAILABLE : FACULTY OF ENVIRONMENTAL DESIGN

Based on the premise that trail use, especially through wilderness-backcountry areas, is increasing in popularity and there is not adequate planning in this area, this project develops a methodology which can be applied to trail planning and location studies. The Great Divide trail is used as an example to discuss the methodology. The author asserts that his approach includes physical and social considerations and demonstrates a total trail planning approach.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : RIVER INTERPRETATION: Development of an On-Water Trail

AUTHOR : Fred J. Wooley DATE OF COMPLETION August 1979

INSTITUTION : School of Natural Resources University of Michigan

DEPARTMENT / PROGRAM : Environmental Education & Outdoor Recreation

THESIS ADVISOR : Dr. William B. Stapp

ADDRESS OF AUTHOR : 170 Hillcrest Blvd.
Ypsilanti, Michigan 48197

WHERE FULL THESIS IS AVAILABLE : Natural Science Library
University Of Michigan Ann Arbor, Mi. 48109

Interpretive programs commonly exist in parks and preserves and help the visitor understand, enjoy, and appreciate the natural and human history of the site. This practicum project explored many creative means of interpreting environments, and directed attention on the river environment at the Oakwoods Metropark Nature Study Area in southeast Michigan. A plan for interpreting the river community was chosen from a list of possible alternatives. The plan included interpretation at the Nature Center Building and at the river site itself. Both personal (contact with an interpreter) and non-personal (no contact with an interpreter) services were treated. An important aspect of this plan was the on-water trail. It took some basic principles of on-land interpretation and applied them to the unique conditions of the river community. Instead of walking on trails through woods, the visitor floats in a canoe, raft, or boat on the water trail among islands and marshes. A buoy system was used to mark the trail and provide interpretation.

This interpretive service provides a unique experience for the canoeist who comes to the park for enjoyment and recreation. A large percentage of visitors to parks and preserves today are coming for recreation and relaxation, not necessarily to be educated. Hence, the role of interpretive programs today is to develop services that will serve the visitors' needs and provide them with a learning experience. The canoe trail and other interpretive media discussed in this paper fulfill this role.

Much of the plan was implemented, and recommendations were made for development in the future. Two self-guided trails were established and interpretive pamphlets, leaflets, and labels were written and produced. Canoeing and other interpreter-led programs pertaining to the river community were conducted.

The practicum served two main purposes: 1) It provided the Oakwoods Metropark Nature Study Area with a river interpretive program; and 2) It provided a guide for other practitioners who have similar conditions in their parks or preserves and wish to interpret them.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : AN EVALUATION OF FOREST PROTECTION POLICIES CONCERNING SPRUCE BUDWORM (CHORISTONEURA FUMIFERANA (CLEM.)) IN THE NATIONAL PARKS OF THE MARITIMES

AUTHOR : Richard E. Davies **DATE OF COMPLETION** April, 1978

INSTITUTION : University of New Brunswick

DEPARTMENT / PROGRAM : Department of Forest Resources

THESIS ADVISOR : Professor A. T. Easley

ADDRESS OF AUTHOR : Department of Forest Resources, University of New Brunswick, Box 4400, Fredericton, New Brunswick E3B 5A3

WHERE FULL THESIS IS AVAILABLE : Harriet Irving Library, Interlibrary Loans, Box 4400, Fredericton, New Brunswick E3B 5A3

The National Parks of the Maritimes provided a unique situation to study the effectiveness of forest protection policies in achieving goals not associated with the preservation of a wood supply for future harvest. The aesthetic condition of the forest and the visitor use pattern were thought to be important factors in the implementation of policy directed at budworm control. Therefore, it was suggested that each park would provide its own unique combination of factors and hence, would require specific strategies directed at solving its particular problems. As well, a conflict in park objectives between maintaining the natural system and providing aesthetic activity areas was outlined.

Personal communication was employed in two phases to gather information concerning the budworm/forest situation in the park and then to evaluate the effectiveness of the present park policies. Scenarios were developed after the initial phase to present the situations as they appeared in the park, to state the park's objectives and speculate on the development of the situation in the future. The evaluation of policies during the second phase utilised a nomogram method proposed by Peterman (1976) and designed for resource management policy development. The process involved a discussion of the value of trade-offs in decision-making and the identification of those factors which were significant to the park in decisions concerning policy implementation.

Present park policy concerning the elimination of aerial spray programs conforms to the objectives of maintaining the natural system over the long term. However, current ground spray control techniques were questioned and recommendations to study the use of forest management techniques to achieve long-term solutions to the budworm/aesthetics problem in the intensive-use visitor areas of the parks were proposed. Visitor reaction to budworm damage and to direct contact with the insect were identified as significant factors in making policy decisions concerning forest protection in the National Parks of the Maritimes. However, it was concluded that concrete information regarding visitor attitude and reaction is lacking and therefore, Parks Canada should initiate research studies to determine the significance of these factors, in each park. Limitations of the graphical technique included a lack of indicators specific to the park situation. The greatest value in applying the technique was achieved in exploring the possibilities with the park that had not yet been faced with a budworm problem.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : PLANNING FOR URBAN WILDLIFE: A METHOD AND IT'S APPLICATION TO FISH CREEK PROVINCIAL PARK

AUTHOR : J. VAN CAMP **DATE OF COMPLETION** 1976

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR : 892 NORTHMOUNT DRIVE N.W. CALGARY, ALBERTA T2L 0A8

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

Project develops a methodology for injecting wildlife indicators into the urban master planning process. This methodology is used to generate wildlife information for the proposed conceptual master planning of Fish Creek Provincial Park.

2. Parks and Camps: Users and Interpreters

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : AN ECONOMIC EVALUATION OF THE WILDLAND RECREATION PROGRAM IN THE BATHURST PILOT PROJECT

AUTHOR : Gwendolyn S. McKay **DATE OF COMPLETION** December, 1978

INSTITUTION : University of New Brunswick

DEPARTMENT / PROGRAM : Forest Resources

THESIS ADVISOR : Professor A. T. Easley

ADDRESS OF AUTHOR : Department of Forest Resources, University of New Brunswick, Box 4400, Fredericton, New Brunswick E3B 5A3

WHERE FULL THESIS IS AVAILABLE : Harriet Irving Library, Interlibrary Loans, Box 4400, Fredericton, New Brunswick E3B 5A3

In 1974, recognizing the numerous and varied demands on, and potential benefits of its forests, and hence, the need to improve on the traditional methods of resource allocation, the Province of New Brunswick initiated the five-year Bathurst Pilot Project. This Pilot Project, founded on the multiple-use concept, represents New Brunswick's maiden attempt at managing Crown land for purposes other than the traditional, single-purpose use, wood-fibre production.

One feature of the Bathurst Pilot Project, the Wildland Recreation Program, is designed to test and evaluate various modes of wildland recreation, in order to meet the unofficial objectives of providing opportunities for recreational enjoyment by Provincial residents on Crown land and to protect the resources from public misuse.

In 1977 the agencies responsible for funding and administering the Bathurst Pilot Project recognized the need for a comprehensive evaluation of the Wildland Recreation Program. In June 1978, the author completed a one-year, three-volume, social, economic and environmental study which recommended the means by which to both maximize the social and economic impacts and minimize the environmental impacts of the Wildland Recreation Program. This report recounts only the economic findings of the overall study.

The objective of the economic evaluation was to quantify all the benefits and costs of the Wildland Recreation Program and then, to determine the economic impact of the Program on both the Gloucester County and New Brunswick economies. Despite the traditional difficulties associated with measuring the economic impact of recreation, this study employed the conventional, but confining, benefit-cost analysis because it offers, at present, the best technique to force the analyst to quantify as best he/she can the actual benefits and costs so as to make rational decisions about outdoor recreation investment and consequently better investment of scarce resources.

In both quantifying all the monetary costs and benefits, and identifying the non-market costs and benefits of the Wildland Recreation program it was clear that, while the Wildland Recreation Program has had and will continue to have a tremendously beneficial impact on the social lives of Gloucester County residents and to a lesser extent on other New Brunswick residents, the sum total of its effects on the two economies has been negligible. In evaluating the Wildland Recreation Program this study identified a number of very basic, but significant problems with both the Program itself and the total multiple-use concept of the Bathurst Pilot Project. Recommendations were made to provide the Wildland Recreation Program and the Bathurst Pilot Project with direction, to provide the rationale for resolving potential conflicts of interest, and to maximize economic impacts.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : AN EVALUATION OF THREE NATURE INTERPRETATION TECHNIQUES

AUTHOR : Patricia A. Deane **DATE OF COMPLETION** January, 1979

INSTITUTION : University of New Brunswick

DEPARTMENT / PROGRAM : Forest Resources

THESIS ADVISOR : Professor A. T. Easley

ADDRESS OF AUTHOR : Department of Forest Resources, University of New Brunswick, Box 4400, Fredericton, New Brunswick E3B 5A3

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Nature interpretation plays a large role in influencing the behavior of visitors to National and Provincial Parks and, hopefully, leaves a lasting impression when they head back home. If the message is to be absorbed, the medium to do this has to be effective.

This study examines three alternative nature interpretation techniques: the guided walk, the self-guided walk, and the audio-visual presentation. Each medium is tested to determine how effective it is in delivering information on three selected topics. The experimental design allows for comparisons among media and among topics, and measures medium-topic interaction.

The guided walk is rated higher than the other two techniques in conveying information on three selected topics, to a group of university students. Results indicate no significant difference among topic response and no significant interaction between topics and media.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Study of Camping Objectives of Mennonite Organized Resident Church Camp Directors, Campers, and Parents in Comparison to Spahn's (1958)

AUTHOR : Lehman, Anne B **DATE OF COMPLETION** Dec. 1978

INSTITUTION : State University of New York College at Cortland

DEPARTMENT / PROGRAM : Department of Recreation Education

THESIS ADVISOR : Dr. Charles Lewis

ADDRESS OF AUTHOR : RD Sunset Drive, Lowville, NY 13367

WHERE FULL THESIS IS AVAILABLE : State University College at Cortland, Cortland, NY 13045

The objectives of an organized resident camp give the camp program its form and purpose, also serving as tools for evaluation. (Brown, 1970; Hammett, Musselman, 1951; Mitchell, Robberson, Obley, 1977; Schmatz, 1971). A quality program is best achieved through clearly stated objectives that will guide in program formulation, staffing, and administration. (Brown, 1970; Fjare, 1977; Schmatz, 1971). Hedley S. Dimock (1948), a noted pioneer in the administration of organized camping described the importance of camp objectives when he wrote:

> "Program planning begins, of course, with the camp's objectives. They give direction; determine the selection of activities; and they are used in evaluating outcome." (Dimock, 1948, p. 123)

If camp objectives are not stated, possible lack of direction and framework for a camp program could contribute to the probability of inferior camp programming. (Brown, 1970; Schmatz, 1971) There appears to be little research which examines the objectives of camping.

This research project attempted to study the ideas and concepts which shape the objectives of Mennonite church camping. This study was replicative in nature, using a slight modification of the tool used by Moe C. Spahn (1958) in his study of the objectives of private boys camps. Modification of Spahn's tool was necessary, for this study used a co-ed group of participants and involved co-ed camps. Only the camper version of the tool needed modification, this was accomplished by replacing wording that pertained to boys only, with wording to include both boys and girls.

For example: Number six in Spahn's (1958) questionnaire for the camper stated, "To be able to engage in sport activities with boys from other cabins." This statement was modified for this study to read, "To be able to engage in sport activities with boys and girls from other cabins."

The results of the two studies will be compared to obtain observations.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The History of the Hayward Area Shoreline Environmental Education Project

AUTHOR : Edwards, Constance DATE OF COMPLETION 1977

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

This thesis describes and analyzes a portion of land bordering the east shore of San Francisco Bay within the limits of the city of Hayward. It summarizes parts of the natural and human history of San Francisco Bay as it relates to the area under consideration. Further it records the development through complicated organizational maneuvers, of the Hayward Area Shoreline Planning Agency and subsequently of the Hayward Area Shoreline Environmental Education Project, the first of which obtained the land for public uses; and the second resulted in a model plan for the education of the citizens concerning the importance and careful use of the area.

This paper will be used as a resource for those interested in achieving similar educational goals.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Developing an interpretive booklet..Porcupine Mts. State Park

AUTHOR : Mark R. Peterson DATE OF COMPLETION 1978

INSTITUTION : University of Wisconsin

DEPARTMENT / PROGRAM : Agricultural Journalism

THESIS ADVISOR : Larry R. Meiller

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : Dept. of Agricultural Journalism University of Wisconsin, Madison, Wis. 53706

This study attempts to develop an interpretive pamphlet for the Porcupine Mountains Wilderness State Park in upper Michigan where little information about the area is available for the visitor. Specifically, the research seeks to answer: 1) Is there a need for an interpretive booklet on the Porcupine Mountains as perceived by visitors to the park?, 2) What natural history topics would park visitors hope to find in such a booklet?, and 3) What are some of the characteristics of visitors to this park?

To answer these questions, 284 park visitors were personally surveyed during the summer of 1977. All four of the basic park user types were sampled: day users, developed and primitive campground users and back-country users.

The data reveal that 82% of those interviewed would like an informational booklet about the area made available. The highest consensus of respondents desiring such a booklet were visitors who: 1) camped primitively, 2) spent much time hiking and participating in a large variety of recreational activities, 3) camped in the park for several days, and 4) were fairly knowledgeable about the park in general. Most respondents were willing to pay between $1.00 and $2.00 for a park booklet.

About 50% of the visitors wanted the booklet to include a better park map. The next most popular topics were "sights along the trails," park geology", "history of early man in the park", and "park trees and plants". Topics with the lowest preference were "park amphibians and reptiles", and "park insects".

Taking into consideration the results of the study, the text for an interpretive booklet was developed and appears in the appendix.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Relationship of Satisfaction to Visitor Activities In a Park Setting

AUTHOR : Stephen Murray Holland **DATE OF COMPLETION** May, 1979

INSTITUTION : Texas A&M University

DEPARTMENT / PROGRAM : Department of Recreation and Parks/Recreation Resource Development

THESIS ADVISOR : Dr. Neil H. Cheek, Jr.

ADDRESS OF AUTHOR : 2226 Wintergreen Ave., District Heights, MD 20028

WHERE FULL THESIS IS AVAILABLE : Recreation and Parks Department
Texas A&M University, College Station, TX 77843

This thesis focuses on various aspects of leisure satisfaction among visitors to a park setting. Satisfaction is conceptualized within discrepancy theory to be related to the congruence of expectations and accomplishments. Visitors completed a questionaire on their accomplishments just before leaving the site. Unobtrusive observation identified the activities of approximately one-half of the sample.

Of the 134 people who completed the first questionnaire, 77 returned to complete the second questionnaire (57%). The most popular reasons for coming to the park were to learn and discover a relationship with nature, escape pressure and to be with the family. These were also the experiences that visitors accomplished the most, yet many did not accomplish as much as they expected. Couples and families were the predominant visitor group type. Satisfaction was not shown to vary across different individual characteristics.

Discrepancy theory was not supported as the congruence of expectations and accomplishmnets was not related to satisfaction levels. Members of groups tended to report similar satisfaction levels. Satisfaction did not vary across most of the observed activities. The only exception was photography which resulted in higher satisfaction level. With one exception (Picnickers), activity patterns showed no variation in domains of satisfaction.

Implications of this study are that the existing theories of satisfaction are intended primarily for non-social, work situations. They may be inadequate for application to leisure situations. Satisfaction may be an integral part of the leisure experience and attempts to relate dissatisfaction and leisure may be nonsensical. Arguments for a theory of leisure satisfaction, distinct from other satisfaction theories, are presented.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Motive, management preferences, and perceptions of crowding of backcountry hiking trail users in the Allegheny National Forest of Pennsylvania

AUTHOR : Curtis S. Bowley **DATE OF COMPLETION** 1979

INSTITUTION : The Pennsylvania State University

DEPARTMENT / PROGRAM : Recreation and Parks

THESIS ADVISOR : Richard C. Knopf

ADDRESS OF AUTHOR : P.O. Box 813
Sheffield, PA 16347

WHERE FULL THESIS IS AVAILABLE : Pattee Library, Penn State University

To assist recreation resource managers determine the recreational carrying capacity of the backcountry hiking trail system, questionnaires were administered between May 28 and September 5, 1977 to a representative sample of 485 users to identify their demographic characteristics, motives or reasons for hiking, perceptions of crowding, level of satisfaction, perceived impact of environmental hiking and camping practices, and preferences toward different trail management actions and approaches for controlling use levels. Completed questionnaires (n=406) were analyzed to obtain frequency distributions for each question and then Student's t and Chi-square tests were computed to test for statistically significant differences between day and overnight users and between first-time and repeat users. Factor analysis was utilized in the construction of motive scales and the cluster analysis was used to segregate overnight users into homogenous subgroups based on their motive profiles. Generally, users were young, resided in urban areas, spent 1 to 3 days on their hiking trip which usually occurred on a weekend, went hiking to experience nature and for stress release/solitude, and were completely satisfied with their trip. It was concluded that there is great diversity in users' motives, management preferences, and perceptions of crowding.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Banff: Visitor Activities and Regional Growth

AUTHOR : Donald W. Irwin DATE OF COMPLETION 1975

INSTITUTION : University of Calgary

DEPARTMENT / PROGRAM : Faulty of Environmental Design/Environmental Science

THESIS ADVISOR : Dr. S. Herrero

ADDRESS OF AUTHOR : #10530 127 St., Edmonton, Alberta, Canada

WHERE FULL THESIS IS AVAILABLE : University of Calgary or from author.

This study examined two alternatives to the continued growth of the national park's visitor service centre of Banff, Alberta. Using an interview and time diary technique, descriptions of activities were gathered for a ½ of 1 percent sample of overnight visitors to Banff for the peak two-week period, July 1 - 14, 1973. The analysis of these descriptions in terms of the planning framework provided by the National Parks Policy (1969), provided a basis for a new visitor oriented approach to planning visitor facilities. In this new view planners would include consideration of information and activity systems as an integral part of planning physical facilities. Specific design proposals are included to illustrate the new approach.

As well as examing visitor activities as a basis for planning Banff future, the growth capabilities of the Bow River valley just outside Banff National Park were examined for the siting of tourist commercial facilities. Based on an analysis of visitor activity patterns, government policy, existing development proposals and the area's physical capabilities, in the light of projected growth to Banff National Park, the area outside the east gate of the national park was seen to have substantial development capabilities.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Management of Visitor Use at Inglewood Bird Sanctuary

AUTHOR : Judith Larkin DATE OF COMPLETION Nov. 1977

INSTITUTION : University of Calgary

DEPARTMENT / PROGRAM : Environmental Design

THESIS ADVISOR : Dr. Dixon Thompson

ADDRESS OF AUTHOR : c/o National Capital Commission
48 Rideau St., Ottawa, Ontario, K1N 8K5

WHERE FULL THESIS IS AVAILABLE : Faculty of Environmental Design
University of Calgary

The Inglewood Bird Sanctuary is a 28 hectare natural area surrounded by industrial and residential development along the Bow River near the centre of Calgary, Alberta. Recent visitation has been in the order of 9,500 to 11,300 people annually, divisible into three main types: casual visitors on weekends (62% of total use), tour groups during the week chiefly in Spring and Fall (35% of total), and natural history classes in the evenings (3% of total). Casual visitors are commonly in groups of two or three, and spend one to two hours walking around the Sanctuary generally without birdwatching equipment; they have a higher educational level than the Calgary population as a whole. Tour groups are chiefly composed of children from elementary schools. Adults register in evening classes. A number of users suggested improvements in the facilities and programs offered, but the vast majority did not feel crowded during the course of their visit. As a result of this study it is recommended that the interpretive program be expanded by the hiring of another naturalist and through the development of study guides for school groups and self guiding pamphlets for casual visitors.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : INTERPRETATION IN THE URBAN NATURAL PARK

AUTHOR : B. McMILLAN DATE OF COMPLETION 1975

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR : 10363 - 108 STREET
EDMONTON, ALBERTA T5J 1L8

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

The underlying thesis is that development of unique interpretive programs and methods in natural areas adjacent to urban centres is necessary and vital. This is a book of ideas - a source book - to be used by anyone developing interpretive programmes in natural parks near large urban centres.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Visitor Response to Interpretation at Selected Historic Sites

AUTHOR : Lucinda Lou Irwin DATE OF COMPLETION May, 1978

INSTITUTION : Texas A&M University

DEPARTMENT / PROGRAM : Recreation and Parks/Recreation Resource Development

THESIS ADVISOR : Dr. Clare A. Gunn

ADDRESS OF AUTHOR : 738 Garden Acres, Bryan, TX 77801

WHERE FULL THESIS IS AVAILABLE : Recreation and Parks Department
Texas A&M University, College Station, TX 77843

In order to plan effective interpretation, it is necessary to know something about the personality and experience of the visitor to the site. At this time, literature in the field of interpretation reflects recent studies with visitors in natural resource areas, but little in historic areas. Literature in the field of history museums reflects curatorial concerns rather than visitor concerns.

Historic site visitors were observed and surveyed during the summer of 1977 to determine their personal attributes and interests, their reason for visiting the site, their evaluation of the site's interpretation, and their behavior while viewing the site. Two hundred and forty groups were observed at eight different historic sites in Texas and Tennessee. Upon leaving the site, each group member was given a mail-back questionnaire to fill out and return. Data from both the observation and questionnaire responses were tabulated and chi-square analysis was used to test the proposed hypotheses.

The results showed that historic site visitors represented a highly stratified portion of the U.S. population. They were stratified on the basis of racial and ethnic background, life style, educational achievement, and interest. Historic site visitors tended to be white, anglo-saxon Americans with a conventional life style, high educational attainment, and an unusually strong interest in history.

Two results were significantly different from those presented in other studies on visitors participating in interpretive offerings. Historic site visitors more often attended sites as couple groups than family groups, and the level of educational attainment was generally higher for historic site visitors than natural park visitors.

The findings also demonstrated that visitors did not always behave in the manner that the designer, builder, interpretive planner, or manager of site expected that they would. Often a small flaw in the design, construction, interpretation, or management of a site caused major visitor misdirection. This result also showed the value of observation as a technique for designers, interpretive planners, and managers to evaluate visitor reactions to site features.

More detailed results about visitor attributes, interests, and behaviors are also reported in this study. In addition, suggestions for historic site managers and interpreters and for future research on historic site visitors and site interpretation are presented.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Three Environmental Living Curriculum Models

AUTHOR : Arnold, Warren DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward; Main Library, McHugh Reading Center, Environmental Education Lab.

This project is concerned with Environmental Living as one contemporary aspect of Outdoor Education. A definition of Environmental Living is provided in order to provide the reader with a common base of understanding. Several concurrent approaches to Environmental Living projects are presented with emphasis on the role of the National Park Service in Environmental Living.

Three complete Environmental Living curriculum models are presented. Indian Camp presents a study of selected aspects of Native Californians' material culture. Rancho Days presents a study of selected aspects of Spanish/Mexican material culture in California. Pioneer Camp presents a study of selected aspects of European "pioneers'" material culture in California. All three studies are designed for teacher use on local school sites.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Fine Arts Summer Resident Camp Resource Guide

AUTHOR : Brekke, Ted A. DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward; Main Library, McHugh Reading Center, Environmental Education Lab.

The purpose of this project is to provide a resource guide for a summer resident camp. This source of information and program suggestions would insure a quality fine arts resident camping program for children attending the Mt. Diablo Unified School District Fine Arts summer resident camping program.

Participants should be guaranteed a well planned quality program. The proposed resource guide serves as a useful source for the fine arts resident camp staff in the performance of their duties.

Source of data for the resource guide included questionnaires sent to 54 individuals throughout the United States and Canada. Other sources for program materials included the Contra Costa County Educational Media Services, articles published in appropriate periodicals, California State University, Hayward library, Educational Information Center (ERIC), the services of the Mt. Diablo Unified School District's library facilities and personal interviews.

According to respondents, Fine Arts activities are a necessary part of the resident camping program. fine arts can be used as an interdisciplinary approach in providing students with experiences in exploring, identifying, experimenting and investigating their natural environment.

This study indicates that there is an urgent need for a fine arts resource guide. Most respondents actively participate in fine arts activities, however, precious little information has been published to justify the inclusion of the fine arts in an outdoor/environmental education resident camping program.

This writer concludes that fine arts activities are equally important and essential for any interdisciplinary approach to environmental education. The fine arts provide for direct experiences and total pupil participation and involvement. Aesthetic experiences in environmental resident camping programs will provide for the development of appropriate values, attitudes and appreciations necessary for the preservation of our natural resources.

It is anticipated that fine arts activities will continue to be offered in the Mt. Diablo Unified School District summer resident camping program and that they will be considered a necessary and fundamental phase of the curriculum.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Zooseum: An Integrated Institution For The Future

AUTHOR : Jerome E. Freilich **DATE OF COMPLETION** May 1979

INSTITUTION : Cornell University

DEPARTMENT / PROGRAM : Science & Environmental Education/Department of Education

THESIS ADVISOR : Dr. Richard B. Fischer

ADDRESS OF AUTHOR : Stone Hall, Cornell University, Ithaca, NY 14853

WHERE FULL THESIS IS AVAILABLE : University Library

More people are growing up each year who have never experienced nature first hand. This is a serious problem because these people may fail to understand their complete reliance on natural processes and healthy ecosystems. Modern society, despite its technological advances, is still composed of animals which rely on the same water, food, and air, as all other animals.

Natural history museums and zoos are natural places to turn for information concerning the biological world. This is especially so for urban dwellers.

This thesis demonstrates how past precedence and institutional inertia prevent present zoos and museums from educating the public about the critical issues of today -- especially such issues as man's own importance and place in the "The Big Picture."

The author contends that we need a new institution that will combine the functions of present zoos and museums. The combined facility is here called a "Zooseum" for want of a better term. It will adopt all suitable technologies from present day zoos and museums and combine them for the express purpose of conveying "The Big Picture." The Zooseum will be eclectic because it has roots in both parent institutions but is a slave to neither. The Zooseum will be devoted to an idea — the idea of human survival -- so any method of presenting this idea will be employed. The Zooseum will combine all the earth's disciplines into a single institution so that this information is of use to people.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Basis for Interpretive Planning: The Demographic and Behavioral Characteristics of Visitors to the Eleven Point National Scenic River, Missouri

AUTHOR : Woodward Scott Bousquet **DATE OF COMPLETION** 1976

INSTITUTION : The Ohio State University

DEPARTMENT / PROGRAM : Natural Resources

THESIS ADVISOR : Dr. Gabriel J. Cherem

ADDRESS OF AUTHOR : 316 East 15th Avenue, Apartment A, Columbus, Ohio 43201

WHERE FULL THESIS IS AVAILABLE : The Ohio State University, Main Library, 1858 Neil Avenue, Columbus, Ohio 43210

The purpose of this study was to determine certain characteristics of visitors to the Eleven Point River in order to provide the U.S. Forest Service with a basis for planning interpretive services at the site.

Data were collected through participant observation, examination of permits filled out by river users, and administration of informal but structured interviews. Visitors to two river access points and two scenic areas along the Eleven Point were studied.

Based in part on users' activity patterns, a site for the visitor center was selected. Related information showed that canoeing is concentrated between two access points. Since this distribution runs counter to the management objective of dispersed use, interpretive services should emphasize areas that currently attract fewer of the Eleven Point's visitors.

Data analysis also showed that a majority of visitors to a spring adjacent to the river commented on the site's beauty and natural setting. It will be a challenge to build the badly-eroded trail in this area without altering the user's wilderness experience. Another scenic area received surprisingly light use. In view of this finding, the researcher recommended that a proposed exhibit building should not be built until visitorship increases. A leaflet or self-guided trail could interpret the area in the meantime.

These findings and other data will enable the Forest Service to view the Eleven Point River through the eyes of its visitors and plan interpretive services accordingly.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Environment of Small Residential Care Facilities

AUTHOR : Horton, Caryl DATE OF COMPLETION 1976

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The area of "treatment" in residential facilities, i.e., counseling, group therapy, behavior modification, is not deficient. There is an extensive body of related research to draw from. But the area of "environment" of small residential care facilities, including the physical, social and structural environment, has been much neglected. From an overview of the environmental climates of different residential care facilities, the researcher developed criteria with appropriate suggested procedures for selecting, better utilizing or altering the environments of small residential care facilities.

This overview was accomplished through visitations to eleven different small residential care facilities in California, where staff and residents were interviewed and observed. The data obtained from the visitations were validated and supplemented by one or two of the following methods: 1) phone calls to probation officers or psychologists associated with that program, 2) interviews with former residents or other teenagers associated in some way with that program and 3) a follow-up phone call to the facility, six months after the visitation.

A questionnaire was another method of collecting data, sent to both visited and unvisited facilities, with a total of sixty-five questionnaires sent out to small residential care facilities throughout California. Its purpose was to provide a wider perspective of the types of programs and services offered in California.

A third source of information was the author's own work experience at a small residential care facility.

All small residential care facilities were found to fit into one of two general categories: short term placements or long term placements. The short term placements, where a resident's average stay was nine months to a year, tended to be more treatment oriented and handled the more acting-out or disturbed youth. These usually provided more structured environments. There was more counseling done by their staffs and less parenting.

The long term placements were more home-like environments, with the residents living in these two to four or more years. Daily living in these was closer to that of an average teenager living at home and there was more parenting done by the staff.

Of the facilities visited some of the programs were stable and appeared to be successfully accomplishing many of their own self-determined goals. Others, less impressive, were undergoing tremendous change and transition; the goals of these programs were often unclear and the methods for accomplishment, including the use of envrionment, even less clear. Those programs that were successful always had a strong insightful staff and administration, and there was evidence of less staff turnover.

DO NOT TYPE BELOW THIS LINE

3. Media Communications

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : An Analysis of the Relationship Between the National Environmental Policy Act of 1969 and Coverage of Environmental Issues in Two Newspapers From 1962-1977

AUTHOR : Daniel Joseph O'Meara DATE OF COMPLETION 1978

INSTITUTION : Ohio State University

DEPARTMENT / PROGRAM :

THESIS ADVISOR : John Disinger

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : ERIC/SMEAC ED 160 419
SE 025 043

This Masters Thesis from the Ohio State University examines the trend in coverage of environmental problems in two newspapers from 1962 to 1977. Data were gathered by analyzing the content of the "Chicago Tribune" and "New York Times." Environmental stories from 24 selected issues per year were coded and analyzed using the Spearman Rank Correlation Coefficients and Chi-square tests. Number of stories per category and column inches per category were recorded for the following environmental story categories: (1) Energy Resources; (2) Water Quality; (3) Air Quality; (4) Environmental Additives; (5) Population Explosion; (6) Natural Amenities; (7) General; and (8) Miscellaneous. The study concludes: (1) an upward trend in environmental newspaper stories occurred with a peak in 1970; (2) the National Environmental Policy Act (NEPA) of 1969 had no substantial effect on environmental coverage; and (3) NEPA had no apparent effect on any separate categories of environmental news. The study also includes a brief discussion of the implications of these findings. (MR)

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Slide-tape Program Introducing the San Francisco Bay National Wildlife Refuge

AUTHOR : Taylor, Fred LaDon DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab

One of the major purposes of the San Francisco Bay National Wildlife Refuge is to provide environmental education opportunities to Bay Area schools and residents. The United States Fish and Wildlife Service, the manager of the Refuge, identified the need to inform the public of the potential environmental education opportunities at the Refuge. This slide-tape program will be used by the Fish and Wildlife Service to introduce high school and adult audiences to the Refuge, identifying where it is located, who manages it, the reasons for the Refuge, and what can be seen there. It also instills a desire to visit the Refuge.

In producing the slide-tape program the writer developed the objectives, prepared the script, took the photographs, edited the narration and photographs, tested the program, and revised the script.

The evaluation of the presentation was performed by high school science students, college environmental education students, and a panel of experts. The experts concluded that the presentation identified the location and managers of the Refuge. The responses of the high school students proved that the slide-tape program effectively presented the reasons for establishing the Refuge and the characteristic plants and animals that could be found there. The high school students and the college students concurred that the presentation instilled a desire in the members of the audience to visit the Refuge. The consensus of the panel of experts was that the program was very well produced. They also offered some suggestions that were used in the final revision.

Four copies of the revised slide-tape program are available for loan from the Fish and Wildlife Service to schools, colleges, and adult groups.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Towards Improved Communications Between Grassroots Environmental Activists And The Press.

AUTHOR : Walter E. Winans DATE OF COMPLETION September 1979

INSTITUTION : Cornell University

DEPARTMENT / PROGRAM : Science & Environmental Education/Department of Education

THESIS ADVISOR : Dr. Richard B. Fischer

ADDRESS OF AUTHOR : Stone Hall, Cornell University, Ithaca, NY 14853

WHERE FULL THESIS IS AVAILABLE : University Library

This research was conducted to help narrow the communications gab between environmental groups at the grassroots level and their local or regional newspapers.

Researchers at Stanford University had earlier concluded there were weakenesses in media coverage of the environment; their recommendations would have required profound and sudden changes within the media structure and in traditional approaches to coverage. I contend that such changes normally take place over a long period of time and are rarely the result of outside request. My study assumes that, in seeking solutions to the problems, the blame lies far more within the communications arm of the grassroots environmental groups than with the press.

Based on a series of personal interviews with reporters on regional and local newspapers and with a broad mix of environmental groups, it is concluded that the groups generally are not meeting the press halfway. Routine legwork which could be performed easily by the group is often being left to the reporter, issues are often left out of focus and vague, groups over-estimate expertise on the part of the press and are negligent in their explanations, and they put too much faith in the press to achieve for them, to some of the major findings.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Readership Survey of the Candid Conservationist

AUTHOR : Frederick J. White DATE OF COMPLETION 1978

INSTITUTION : University of Wisconsin

DEPARTMENT / PROGRAM : Department of Agricultural Journalism

THESIS ADVISOR : Richard D. Powers

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : Dept. of Agricultural Journalism, 440 Henry Mall, University of Wisconsin, Madison, Wis 53706

This survey attempts to describe the reading habits, preferences and approximately estimate reading skills of some of the readers of the Candid Conservationist. The Candid Conservationist is a quarterly magazine published by the Wisconsin State Board of Soil and Water Conservation Districts.

Questionnaires were mailed to 25% of the active conservationists (828) to elicit their responses. Sixty-seven percent of the 207 randomly chosen recipients returned completed questionnair Responses were analyzed to yield frequencies for all readers and for groups categorized by occupation. An analysis of variance followed by a Newman-Keuls test was performed on the data for all readers to establish relationships between preferences and amount generally read per issue. The data on the amount generally read per issue are given in quartiles.

Findings showed many significant differences that suggest relationships between many of the 26 preferences and the amount generally read per issue. Results indicate suggested relationships include that readership might increase if the content included more about cooperating agencies and soil and water conservation programs as well as more about controversial topics.

Other findings show that the readers are mostly middle-aged and have a high school education. They generally read about two-thirds of an issue and are interested in soil and water conservation, agriculture, wildlife and to a lesser extent, forestry, research and other environmental subjects.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : An Evaluative Comparison of Single and Dissolve Slide Projection Techniques

AUTHOR : Thomas Arthur Miles DATE OF COMPLETION May, 1979

INSTITUTION : University of Idaho

DEPARTMENT / PROGRAM : Department of Wildland Recreation Management

THESIS ADVISOR : Dr. James R. Fazio

ADDRESS OF AUTHOR : 1100 South Oaksdale, Medford, Oregon 97501

WHERE FULL THESIS IS AVAILABLE : University of Idaho Library

Photography is a major tool available to the environmental interpreter. Slide projection in 35-mm format using double projectors and dissolve on a single screen currently enjoys great popularity among interpretive practitioners. To a great extent, this projection technique has superceded the use of single projectors.

To supply interpretive planners with a more objective basis on which to make equipment acquisition decisions, an evaluative experiment was conducted to determine if either projection technique was superior in producing efficiency of audience recall over presented material. In all, 160 students participated in the experiment. One hundred of these subjects were tested together as audience groups. The remaining 60 subjects were tested individually.

Two measurement tools were used in the experiment. A 20-item multiple choice questionnaire was used as a pre-test and post-test to measure recall. Electrodermal measurement was used to measure galvanic skin response (GSR). The evaluation of electrodermal measurement as a valid tool was also an objective of the experiment.

Results indicate that the double projector dissolve technique produced more efficient audience recall than the single projector technique. These results were significant at the .90 level of testing. Results concerning any psychophysiological, GSR differences produced by the two projection techniques were inconclusive. The status of electrodermal measurement as a valid measurement tool was neither supported nor rejected. Certain potentials and limitations of electrodermal measurement were noted. Further research is needed to better define these parameters.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Educational Effectiveness of Interpretive Displays

AUTHOR : Michael A. Chemsak DATE OF COMPLETION 1979

INSTITUTION : Pennsylvania State University

DEPARTMENT / PROGRAM : Recreation and Parks

THESIS ADVISOR : Betty van der Smissen

ADDRESS OF AUTHOR : Box 81, Asbury, West Virginia 24916

WHERE FULL THESIS IS AVAILABLE : Pattee Library, Penn State University

The effectiveness of displays in educating visitors at the Mary Parsons (N=423) and Hidden Oaks (N=306) Nature Centers was assessed separately for each center by a knowledge test based on the concepts of the displays in the particular center. Center visitors were divided into three groups to control for pre-test influence. One group took both the pre- and post- tests, another took only the pre-test, and a third took only the post-test. The t-test was used to determine the significance of difference between the pre- and post-test mean scores for the visitors as a whole and for the subgroups as obtained by the visitor profile. The exhibits were examined for factors contributing to their effectiveness. It was found that visitors who took the pre-test learned significantly .05 more than those who did not. In comparing the visitors who took only the pre-test with those who took only the post-test, a significant increase in the knowledge occurred for the visitors as a whole at Mary Parsons, but not at Hidden Oaks. The most important factor contributing to display effectiveness was directing the visitors' attentive behavior. The most effective displays were 3-D displays, those containing live animals, those which could be manipulated by the visitors, and those in which the concepts to be learned were actually stated in the exhibit text.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Research Proposal for Urban Forestry Campaign

AUTHOR : Hernando Gonsalez II DATE OF COMPLETION 1979

INSTITUTION : University of Wisconsin

DEPARTMENT / PROGRAM : Department of Agricultural Journalism

THESIS ADVISOR : Larry R. Meiller

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : Dept. of Agricultural Journalism, 440 Henry Mall, Univ. of Wisconsin, Madison, Wis. 53706

There are two types of information programs that will be used in different communities in this campaign. One program will use mass media only while the other program will use a combination of mass media, interpersonal and other communication channels.

The objective of this evaluation research project is to determine which information program would be most appropriate and useful under different circumstances. In other words, the study is not expected to produce "the best public information campaign in urban forestry" but to identify under which conditions a certain information program would most likely achieve the objectives of this public information campaign.

The information campaign is scheduled to cover a nine-month period in 1980. Surveys of the general public will be taken immediately before, during and towards the end of the campaign at four-month intervals.

Two experimental groups will be investigated under each treatment condition. One experimental group will consist of a panel to be maintained throughout the course of the campaign, while the other will consist of cross-sectional surveys at every measurement period. A control group from a city with no information program will also be included in the research design.

In studying cognitive, affective and behavioral outcomes, several research approaches will be used: (1) agenda-setting, (2) knowledge gap, (3) information-seeking, (4) interpersonal discussion or diffusion, (5) "uses-and-gratifications", (6) "hierarchy-of-effects" and (7) coorientation. A model of the public information campaign process is also proposed in an effort to integrate these communication approaches.

In summary, this proposal is expected to assist in evaluating a public information campaign on urban forestry as well as to contribute towards theory-building in communication research.

4. Pupil-Centered Studies

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Environmental Education Through Camping for the Inner City Schools

AUTHOR : Bradford, Margaret DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, & Environmental Education Lab.

This study grew out of the needs for inner-city awareness and knowledge of environmental problems and for providing fourth, fifth and sixth grade students with a camping experience where the aim was to relate some other classroom instruction with the direct experience in camping.

The method consisted of setting up a model camp program for inner-city children. The children who used this model were compared with children who did not use this model by a pre- and post- questionnaire. The questionnaire measured knowledge attitude toward the environment and motivation toward school. These results were substantiated by evaluation from teachers and parents. These results showed documentable changes toward an increased knowledge and awareness of the outdoors and a more positive attitude toward school learning and motivation. Therefore, such programs should be continued for inner-city students.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Effects of An Environmental Studies Curriculum on Seventh and Eighth Grade Volunteers

AUTHOR : Hahn, Melva Rush DATE OF COMPLETION 1979

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Dr. Helen C. Meyer

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The earth as a life-support system is in trouble. The list of environmental problems and crises that face the citizens of today and of tomorrow is extensive. Many leaders in the environmental field feel that these problems are related and that long-range changes and solutions must be developed on a global basis.

Studies exist that indicate an American public unable to judge environmental problems accurately and ignorant about its own power to initiate change. Leaders from diverse fields see a need for an environmental education program to develop in young students an awareness of and concern for the environment and its problems and to give those students the knowledge, skills, attitudes, and motivations to work toward the solutions of those problems and the prevention of new ones.

Because environmental education is a relatively new curriculum area, few studies exist that show the effects of such a curriculum on students. This study compared the effects on seventh and eighth grade students of a semester-long curriculum in environmental studies with the effects of other science courses. Significant gains in knowledge and environmental responsibility and a significant change in attitude were hypothesized for the experimental group.

Eight classes of seventh and eighth grade students and two teachers participated in the study. There were four comparison group classes and four experimental group classes. Two classes in each group (comparison and experimental) were instructed by each teacher.

Each pre- and post-test consisted of a two-part survey and a test on knowledge of basic concepts, administered the first and last weeks of the semester. The independent t distribution was employed to test the significance of the difference between the means of the two samples (comparison and experimental) on the "Ecology" knowledge and concepts pre- and post-tests. The Mann Whitney significance test was employed on the attitude measure ("Our World of Today--Our World of Tomorrow"). Chi Square was used on the environmental responsibility survey ("Some Ideas I Have).

The data upheld two of the hypotheses; however, no significant difference was found between the comparison and experimental groups in the area of attitude change.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Effects of Audio-Visual Presentations on Environmental Awareness

AUTHOR : Douglas J. Glasenapp DATE OF COMPLETION July 12, 1979

INSTITUTION : Ball State University

DEPARTMENT / PROGRAM : Dept. of Natural Resources

THESIS ADVISOR : Dr. Charles O. Mortensen

ADDRESS OF AUTHOR : 4705 N. 134th Street, Brookfield, Wisconsin 53005

WHERE FULL THESIS IS AVAILABLE : Dept. of Natural Resources, Ball State University, West Quad 110, Muncie, IN 47306

A questionnaire related to environmental awareness was administered to 244 students enrolled in NR 101, Introduction to Natural Resources, during the Spring Quarter of 1979 in an attempt to answer the following questions: (1) To what extent will viewing a slide-tape presentation alter student responses on a questionnaire? (2) To what extent will the responses of the students viewing a slide-tape presentation differ from a control group that did not view the presentation? (3) Will separate treatments result in significant differences in responses when compared to a control group?

Results of this research indicate the treatments did alter the students' responses on one factor. The responses were altered towards an environmentally aware position and there were significant differences between treatment group responses when compared to the control group.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : EVALUATING EDUCATIONAL EXPERIENCES: A Proposed Theoretical Model And Experiemntal Analytic Instruments

AUTHOR : Duane Robert Pierson DATE OF COMPLETION May 1979

INSTITUTION : Cornell University

DEPARTMENT / PROGRAM : Science & Environmental Education/Department of Education

THESIS ADVISOR : Dr. Richard B. Fischer

ADDRESS OF AUTHOR : Stone Hall, Cornell University, Ithaca, NY 14853

WHERE FULL THESIS IS AVAILABLE : University Library

What are the educational impacts of planned environmental education experiences, especially resident experiences? They tend to be located primarily in the affective domain. Much of what happens is intangible and difficult to evaluate; therefore, it is hard to defend them against the criticisms and financial constraints levelled by school administrators and board of education.

The initial plan of this study was to test a theory that student recall of experiences might be measurable by use of a hierarchial scale. The more intense the experience, the more frequently it should be recalled. Those who recall experiences at a high level offer an independent variable to be used in correlation studies where the entire participatory group is compared with a control group.

I designed a questionnaire. The first page is an open-end search for recalled experiences, tentatively called Peak experiences, that may have dramatically altered one's scholastic goals and direction. The second page probed for experiences tentatively described as having a High level of recall; they may have a dramatic and lasting effect on a student's scholastic career but have not necessarily changed its course and direction. These pages of open-end questioning were followed by a values-weighted test and questions designed to ascertain career aspirations. The questionnaire was administered to 247 suburban 11th Graders and to 257 urban 11th Graders in New Jersey. Both school systems have environmental education resident experiences at the upper elementary school level.

Coding and tabulation of the questionnaire results made it apparent that the Environmental Education Experience could not be isolated for analytic processing. At that point some ancillary hypotheses had to be developed. A model was developed for an educational experience matrix that includes all experiences a student has within an educational system. The data were used to construct Experience Profiles for each school. The profiles used graphic illustration to give an assessment of experiences within the educational matrix. Experiences were positioned on the profiles according to recall frequency. With the matrix and the profiles, the environmental experience has been given a basis for comparison with other experiences. Results were analytically significant. It was only the planned and designed experience that showed up strongly on the profiles. In the suburban school it ranked 8th out of all experiences recalled, preceded by discipline, social, athletic, and teacher related experiences.

Analysis of the values-weighted tests provided statistically significant results. Participants in the environmental education experiences had significant values differences from those who did not participate in three areas. These areas pertain to scientific interest, environmental awareness, and hedonism. Participants in the experiences also had a much higher interest in pursuing science as a vocation and for academic study. This paper has put forth a new theory for measuring planned educational experiences. It suggests further study in the utilization of intensity recall of these experiences as an evaluative instrument.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Curriculum Guide in Outdoor Education for Oakland Diocese Elementary School System

AUTHOR : McElhiney, M. L. DATE OF COMPLETION 1976

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Dr. Rita Peterson

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

This project deals with the construction of a curriculum guide in outdoor education for the Oakland Diocese Elementary School System. In order to determine the need for such a document a survey was taken on the use of three resource areas, the schoolgrounds, the immediate neighborhood, and the community. The results of this survey indicated that little to moderate use is made of these resource areas. Information and activities to be used in these outdoor areas were compiled and synthesized. Questionnaires were sent to various community organizations and agencies regarding the use of their sites for educational field trips. A curriculum guide was then constructed to encourage and aid the classroom teacher of the Oakland Diocese elementary schools to make use of the schoolgrounds, the immediate neighborhood, and the community; to introduce, reinforce, and culminate classroom units of study.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Development of a Curriculum for High School Students on a Backpacking Trip Through the Sierra

AUTHOR : Loofborrow, Norman DATE OF COMPLETION 1979

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Dr. Evelyn H. Belgum

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: McHugh Reading Center, Environmental Education Lab.

The purpose of this project was to develop a curriculum dealing with ecology of the Sierra Nevada which was taught to students from a Christian High School on a 25 day backpack trip from Lake Tahoe to Tuolumne Meadows. Too often students are required to sit passively in classrooms, listening to a teacher talk about ecology, nature, and relationships between organisms without ever having the chance to experience and discover these relationships firsthand. Students can sit in a class and look at pictures of mountain flowers or animals but it just cannot compare with walking through a field of wildflowers, stopping to observe them closely, watching the insects busy at their work, or hearing coyotes yipping at night. The best way to learn ecology is to experience nature and observe the relationships between organisms firsthand.

After meeting with the students who were to go on the trip a list of goals andobjectives set in three different areas: academic, spiritual and physical. Academic: The student will increase his awareness of the variety of plant and animal species in the Sierra. Also the student will become familiar with the geologic history and climate conditions of the Sierra. Physical: The student will increase endurance of muscle and knowledge of physical activities such as hiking and rock climbing. Spiritual: The student will gain a deeper understanding of the nature of God through a study of His creation and a study of God's Word.

Various strategies were described as ways to achieve these curriculum goals. What was most important was the students' responsibility to study a selected topics to be shared with the members of the class while on the backpacking trip. For example, one student will become a class specialist on insects in the Sierra. That student will then become the teacher for the section on insects. Another method was to have each student mark off a small square of land with rope and spend the afternoon observing that area. That night everyone got a chance to share their observations with questions and comments.

The author took his students backpacking and allowed for critical self-evaluation. Recommendations are made tonugment studies and further backpacking ventures.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : THE INFLUENCE OF AN OUTDOOR ENVIRONMENTAL RESIDENTIAL EXPERIENCE ON ATTITUDES

AUTHOR : Flora Eileen Bozzone DATE OF COMPLETION May, 1976

INSTITUTION : Slippery Rock State College, Slippery Rock, PA. 16057

DEPARTMENT / PROGRAM : Environmental Education

THESIS ADVISOR : Dr. Harvey J. Goehring, Jr.

ADDRESS OF AUTHOR : 1218 Apple Wood Drive

Gibsonia, PA. 15044

WHERE FULL THESIS IS AVAILABLE : Environmental Education Dept., Slippery Rock State College, Slippery Rock, PA. 16057

A pre-post test of environmental attitudes was used with fifth-grade students in Allegheny County, Pennsylvania. The experimental groups consisted of 406 students from seven schools who attended one week of outdoor residential experience from a school district. The control group consisted of fifty-eight students from one school who did not attend this experience. The pretest was administered just prior to this week to both groups; the posttest was administered upon the return from camp to the groups.

The findings indicated no significant difference between the total experimental group who attended over the group who did not attend ($p = 0.05$). These factors were studied: Attendance at camp vs. non-attendance at camp; boys vs. girls; members of a youth organization vs. non-members of a youth organization; previous camping experience vs. no previous camping experience; academic grade levels; individual schools.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Outdoor Activities for Seventh Grade Remedial Mathematics Students

AUTHOR : Forde, Wilda Bannister DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The problem was to design outdoor activities which would provide meaningful number experiences for seventh grade students who have difficulty understanding mathematics concepts.

The author reviewed the literature on concept formation, direct learning experience, and the use and effect of outdoor mathematical experiences to teach mathematics. Task card activities were made and piloted with several classes of students, including a remedial seventh grade mathematics class. These cards were revised and others were added to compile a series of task cards based on these subject content classifications:

1. Area and perimeter
2. Averaging
3. Estimating and rounding off
4. Fractions
5. Graphing
6. Mapping
7. Measurement
8. Number operations
9. Numeration
10. Rate of travel
11. Ratio and proportion

It was possible to devise a set of mathematics task cards suitable for seventh grade remedial students to use outdoors. There were many ideas from which to choose the tasks to include in the set. The students enjoyed the outdoor activities so much that waiting to hear the complete directions was difficult for the students. Students with whom the cards were tried responded enthusiastically and based on teacher observation, appeared to improve their verbal mathematical language.

Teaching remedial seventh grade mathematics students in an outdoor setting on the school site by the use of task card activities involving the things related to number that are encountered outdoors provides a means to help these students become interested in and more involved with their learning.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : An Investigation of the Effectiveness of Project Learning Tree at Lincoln Middle Sch9ol, Alameda, California

AUTHOR : Reid, Richard DATE OF COMPLETION 1979

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Dr. Morton S. Tenenberg

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab

The author hypothesized that students participating in the lessons will have a greater awareness of Project Learning Tree principles One and Two than similar students not given Project Learning Tree lessons.

The study was designed to determine whether sixth and seventh grade students at Lincoln Middle School in Alameda, California will have a greater awareness of two of the seven principles which are the focus of Project Learning Tree, a supplementary curriculum, after participating in lessons which concentrate on them. The question is, can exposure to Project Learning Tree lessons create a heightened environmental awareness (Principle One) and a greater understanding of the diversity of forest roles (Principle Two)?

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Development of a Primary Grade Curriculum for the Playground Environment

AUTHOR : Gilmore, Jackie DATE OF COMPLETION 1976

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

Since many schools do not have a nature area to encourage outdoor learning activities, most if not all directed activities take place in the classroom. An investigation of existing materials reveals a lack of activities written for children in grades one through three using outdoor play areas. It was felt that if a curriculum were developed that used play areas common to most schools, the use of those areas would be extended to learning activities, and those activities might stimulate further use of the outdoors as a learning environment.

A curriculum was developed for enrichment use in grades one through three which integrates creativity with cognitive, psychomotor and social/emotional development using outdoor play areas as learning places. The curriculum is in the form of activity cards which can be used by students individually or with assistance from the teacher, an aide, or a student tutor. Activities were constructed to allow children to make choices, solve problems, experience success, and have positive interactions with others. The activities guide the children through a variety of learning experiences which involve tactile, auditory, and visual senses.

To create the curriculum, a set of Playground Activity Cards was designed. Five themes were chosen as a basis of the activities: 1) experience/discover, 2) inquire, 3) imagine, 4) reason/fact find/problem solve, and 5) play.

A set of twelve activities were written, tested with classes, and evaluated by participating teachers. An evaluation of teachers' responses was used to make changes in the twelve prototype activities and as guidelines for creating the remaining forty-eight activities.

Ten of the twelve prototype activities were rated very high and no changes were made. Two of the activities were eliminated because of difficult concepts and unclear directions and were replaced by more appropriate activities. The children enjoyed going outside for "school work" and responded positively to the activities. The activities were of value to the teachers both in extending learning to the outdoors and in providing enrichment and supplementary material for the curriculum.

The activities created for the playground spaces seem to be an effective and enjoyable program for the students as well as being useful to the teachers in the primary grades. It is suggested that the playground environment be considered an exciting, stimulating, and appropriate place for all types of learning, as an extenuation of the classroom and not just a place to play.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Garfield Elementary School Environmental Education Experimental Program

AUTHOR : Long, Clovis DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

This program was developed to provide urban students in grades four through six with outdoor education that supplemented the indoor or classroom curriculum. The focus was on utilizing the materials and resources in the immediate surroundings of the neighborhood and the school. Some of the activities offered direct educational experiences which may encourage students to venture beyond these limited environs.

It was anticipated that direct learning experiences would enhance the students' chances for academic success because of the increased stimulation and the motivation which might promote more self confidence and self direction.

The students selected from grades four through six participated in five sixty minute periods, five days per week for a period of eight weeks in the instruction of outdoor education. Focus was on language arts, social studies and science, using activity cards. The indoor activities built on and lead up to the outdoor instruction in these particular subjects.

Students of both sexes were involved in the program. They were exposed to their total environment in such a manner as to help them to have a better understanding of themselves in relation to the natural resources. With this understanding, it was assumed that they would become more appreciative of these resources and more responsible for conserving them. Further, it was postulated that the student's scholastic achievement would benefit by exposure to and inclusion in a broadened curriculum.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE Assessing Marine Environment Awareness of High School Students

AUTHOR : Chin, Larry W. DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Dr. Helen C. Meyer

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

This study attempted to determine the effectiveness of marine science courses in making high school students more cognizant of marine environment concepts. The Marine Environment Awareness Test, developed by Project COAST at the University of Delaware, was selected as the measuring instrument in this investigation.

The test was administered to four different groups of second-year high school biology students during the last month of school. A nonparametric test, the Mann-Whitney U Test, was used to determine significant differences among the scores of the four groups on the Marine Environment Awareness Test.

The statistical analysis showed only one significant difference: Second-year biology students with maximal exposure to Marine Science scored significantly higher than second-year biology students with no exposure to Marine Science. The results indicated the relationship between the amount of exposure to Marine Science and the scores on the Marine Environment Awareness Test was not linear. This lack of linear relationship may be due to one or more factors. These factors are discussed in detail in the study.

This investigation did not provide conclusive evidence that the Marine Environment Awareness Test should be considered the criterion for assessing comprehension of marine science concepts.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Approaching Outdoor Education in a City Setting

AUTHOR : Tinsley, Billie DATE OF COMPLETION 1977

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

A group of 24 elementary school students in the fifth grade was given an outdoor environmental education experience in an urban school community. These students and a control group from the same school were given the same test before and after the end of the project. The test was composed of 30 items: true/false, completion, and matching. The experimental group was taught both indoors and outdoors.

At the end of the project, the experimental group showed an increased awareness of their immediate environment, but the control group did not. Significant differences were found in the responses between the experimental and control groups after the posttest was given.

As a result of this project, the author recommends that inner-city school children be given an opportunity to participate in an outdoor environmental education curriculum as a means of becoming familiar with the natural resources of the land and as a means of curriculum enrichment.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Study of Moral Judgment, Values, and Locus of Control Development in Students of Environmental Education

AUTHOR : Kimberley Heimsath DATE OF COMPLETION June 1979

INSTITUTION : University of Utah

DEPARTMENT / PROGRAM : Department of Education

THESIS ADVISOR : Dr. Florence Krall

ADDRESS OF AUTHOR : 505 Water Street
Woodville, Ohio 43469

WHERE FULL THESIS IS AVAILABLE : University of Utah Library (Marriott)
Salt Lake City, Utah 84112

The purpose of this research was to study values, moral judgment development, and locus of control in a group of 13 University of Utah students in an intensive environmental education course. The 4-week graduate level environmental education class consisted of 2 weeks spent in classroom discussion and research and 2 weeks in the wilderness of southern Utah. Intervention techniques to promote personal growth included the use of a participatory democracy, cognitive conflict resolution, journal keeping, resolution of moral dilemmas, and small group interactions. A battery of tests administered to the students before and after the course included the Rokeach Value Survey, the Rest Defining Issues Test, and the Rotter Internal-External Control Scale.

Test results showed that students became significantly more internal on the Rotter Internal-External Control Scale and changed their values rankings on the Rokeach Value Survey toward traditional ethical values, self-actualization, and self-efficiency. Results on the Rest Defining Issues Test showed little group change. However, when the group was divided by sex, it was found that the females showed substantial growth on the Defining Issues Test while the males exhibited statistically significant regression. The other test scores showed no significant differences between the sexes.

Personal observations of the researcher indicated that the 13 students became more concerned about other group members, began to realize the value of multiple perspective taking when making group decisions, and developed a strong sense of community within the group. Personal and environmental awareness was enhanced, as was environmental and social learning. Though all of the aspects of personal development studied were not promoted in the total group, the results suggest that some types of personal growth can be promoted by the use of interventions in an environmental education setting.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : An Environmental Living Program on a Pioneer Homestead for Fourth and Fifth Graders

AUTHOR : Place, Carol DATE OF COMPLETION 1979

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Dr. Morton J. Tenenberg

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: McHugh Reading Center, Environmental Education Lab.

The purpose of this project was to design an Environmental Living Program for Deer Hollow Farm in Los Altos, California, to be used by 4th and 5th graders. The Environmental Living Homestead Guide, designed as a result of this project provides an interdisciplinary program including: pre-trip activities for the on-site Environmental Living Program at the farm, and post-trip activities for classroom follow-up.

The design of the guide was based on a review of similar programs throughout the country and utilized state frameworks to integrate activities with the 4th and 5th grade curriculum.

The guide was reviewed by a panel of evaluators, with a wide range of expertise. The results of the evaluation process indicated that the guide was effective in accomplishing the desired objectives, appropriate to the 4th and 5th grade level, and supported the development of relevant environmental education concepts and understandings.

As a result of the evaluation of the guide, a recommendation was made for a pilot study to be conducted at Deer Hollow Farm.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Isolate in Sociometrically Designed Groups at Resident School Camp

AUTHOR : Arnold, Maile DATE OF COMPLETION 1976

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization E.E.

THESIS ADVISOR : Dr. Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, and Environmental Education Lab.

The purpose of this study was to determine whether there would be a positive change in the sociometric score of the isolated or neglected child if he were placed in sociometrically designed living and learning groups at resident school camp.

Before camp a sociometric test was administered to all the sixth grade children who were going to camp in a northern California school district. The results of this test were used to determine the isolates and neglectees. Three of the four schools were selected randomly to be the experimental schools. The living and learning groups of the students from these schools were designed with the isolate or neglectee as nucleus. Each isolate or neglectee received most of his choices for membership in his group and each choice received at least one of his choices. The control group was arranged by the teachers into learning and living groups so as to not cause trouble. All schools participated in the same program while at camp.

Following the week at camp a test similar to the pretest was administered to all the children. The results of the pre and posttests were compared statistically using Fisher's Exact Probability Test. It was found that the sociometric status of the experimental group whose living and learning groups had been designed sociometrically improved significantly when compared with the control group whose groups had been designed by the teachers.

Therefore it was concluded that designing living and learning groups on the basis of sociometric data would have a positive effect on the sociometric scores of isolates and neglectees.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Pilot Study Measuring Pre- and Post-Test Results of a Cognitive Test for Environmental Education

AUTHOR : Schane, Roberta M. DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Dr. Helen C. Meyer

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The purpose of this study was to develop a test of the cognitive areas of environmental awareness, which would be used in a pre-camp, post-camp test format. It was hypothesized that there would be an increase in the students' scores after a school camping experience. This information could then be used to prove the need and usefulness of an outdoor education resident school camping program for Oakland Unified School District, California.

The test was conducted in Murray Elem. School District due to the fact that one of their schools was sending a fifth grade class to camp. A control group was run in Castro Valley Unified School District. For comparison, a second control group of students from Oakland Unified School District was tested.

The scores on the tests of the experimental group did not show an increase on the post-test but were approximately the same of both pre- and post-tests. The scores of Control Group I were slightly lower than those of the experimental group but the scores of Control Group II were markedly lower.

Though the hypothesis was rejected as a result of the scores of the experimental group, the lower scores on the test of environmental awareness for Control Group II showed a great need for some program in environmental education.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The College Park High School Earth Science Camping Program

AUTHOR : Passey, Gary DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

With the recent growth of environmental education programs involving camping experience has come a need for research on the effects of the experience on those who participate in it. College Park High School has, in recent years, operated a camping field trip program through which groups of students are taken on trips of varying length to sites of interest throughout the state.

The purpose of this study was to provide evidence that the program offers to its participants worthwhile experiences and potential growth situations. It was hypothesized that participation is beneficial in the areas of self-concept and peer relationships.

A study population of forty-one students was defined, based on trip participation. Using information from a student-completed questionnaire, a random, stratified sample of fifteen was chosen for study. A combination of student-completed questionnaire and personal interview was used to study each of the fifteen for evidence of attitude or behavior benefit related to trip participation. In addition, an anecdotal record was compiled, based on directly observed incidents or behaviors involving the study group.

Results were analysed based on percent demonstrating behaviors or attitudes under study, and found to be highly supportive of both hypotheses. It was shown that reasons stated for program participation closely matched the hypothesized benefits proposed: i.e., friendship, experience, and feelings of accomplishment. Anecdotes provided further evidence to support resulting benefit in the areas of personal and peer relationships.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Ways to Approach Outdoor Education with Grades One Through Three

AUTHOR : Owens, Erma DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.g.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University Hayward: Main Library, McHugh Reading Center, Environmental Education Lab

A group of twenty-two elementary school students from grades one through three were given an environmental education experience in an urban school community. These children and a control group from the same school were given the same test before and after treatment. The test consisted of fifteen yes/no questions on environmental awareness. The experimental group was taught indoors from the textbook and district educational materials.

The experimental group showed more knowledge about and awareness of their immediate environment after the instructions than when given the pre-test. At the end of the instructions the experimental group was more knowledgeable about and aware of the environment than the control group. However, no significant differences were found for some questions because the students were familiar with those particular areas of study.

As a result of this study the author recommends that the inner city school teachers should be trained in the area of outdoor education. They should:
(1) familiarize themselves with an immediate area,
(2) attend seminars that relate to their content specialization and
(3) become involved in creative teaching of the environment.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Effect of an Environmental Social Science Class on the Values of Urban Students

AUTHOR : Tomasko, Frances DATE OF COMPLETION 1977

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.g.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab

The study of values and attitudes is abstract in nature though real to the individual. Attitudes and values are difficult to measure, yet visible behavior patterns and changes can be observed. The environment of each individual is in constant fluidity and is directly affected by behavior changes. Since social science courses are designed to handle social issues and problems for study, the student can be made aware of and informed about the environmental problems within the community and can develop workable solutions to these problems.

This study measured the effects of specific social science strategies in the classroom on the values and attitudes of urban high school students toward their environmental responsibilities. It compared four social science classes, two control and two instructed with values-clarifying experiences related to the environment.

Attitudes and values toward self and the personal and physical environment were measured using a Q-sort values questionnaire which contained manipulative slips of paper for ease of handling values. The questionnaire was constructed by the researcher based on a previous values questionnaire used in a sociological survey.

It was hypothesized that there would be a measurable difference in the values and attitudes between the treatment groups and the control groups as the treatment groups became more aware of the consequences of their actions. The main hypothesis was held to be valid by the data. However, not all of the subhypotheses were substantiated by the facts in the test and survey administered.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Student Attitude Change as a Result of the Presentation of Materials Representing Various Opinions on Strip Mining

AUTHOR : Terry L. Wilson **DATE OF COMPLETION** March 1970

INSTITUTION : The Ohio State University

DEPARTMENT / PROGRAM : School of Natural Resources/Division of Environmental Educatior

THESIS ADVISOR : Dr. John F. Disinger

ADDRESS OF AUTHOR : Center for Environmental Education, Murray State University
Murray, KY 42071

WHERE FULL THESIS IS AVAILABLE : ERIC - ED 133 165, Resources in Education, Vol. 12, No. 5, May 1977

Reported is a study that designed a set of materials representing a spectrum of possible opinions on an environmental issue and tested the materials with ninth-grade students. Materials were obtained regarding strip mining. Judges ranked the materials on a five point scale from strongly supporting to strongly opposing strip mining. Materials on which judges could agree were selected for the study. An experimental group and control group were involved in the instruction. Both groups were pretested and posttested. The experimental group received five days of instruction with materials reviewed by the judges. The posttest data indicated the control group students did not change their attitudes while the experimental group students did. In general, students with extreme positions tended to become less extreme.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Effect of Process Instruction on Problem Identification Skills in Environmental Education

AUTHOR : Gertrude L. Volk **DATE OF COMPLETION** 1 March 80

INSTITUTION : Southern Illinois University at Carbondale

DEPARTMENT / PROGRAM : Dept. of Curr., Instruction and Media

THESIS ADVISOR : Harold R. Hungerford

ADDRESS OF AUTHOR : Dept. of CIM - South. Ill. University at Carbondale 62901

WHERE FULL THESIS IS AVAILABLE : Morris Library - SIU-C

Problem identification, as a process inherent in problem solving or issue analysis, is probably far more important in environmental education than the time spent on the development of this skill would seem to indicate. Although numerous professionals and instructionally-oriented documents refer to some aspect of problem identification as a component of environmental education, there is a paucity of information on the development of this skill as a discrete entity preceding issue investigation, evaluation, or solution.

Using the initial three modules of Investigation and Action Skills for Environmental Problem Solving (Hungerford, et al, 1978), at the junior high school level, the researcher sought to measure the effect of instruction on the problem identification skills of eighth grade students. The program used was chosen for three reasons: (1) it constitutes a problem solving approach to environmental education, (2) it has as an objective the identification of environmental problems, and (3) it focuses on the processes associated with issue investigation, which includes problem identification. The research question was posed as follows: To what extent will an investigative skills environmental education program influence the problem identification skills of junior high school students when compared to a typical general science program?

The three modules used in the study focused largely on values clarification and training in the processes associated with issues investigation, rather than on a multiplicity of issues per se. Although there was no effort to teach a set or listing of environmental problems as such, students experiencing the treatment displayed considerable gain in problem identification skills.

The results of the study suggest that an investigative skills development program in environmental education can enable students to: (1) identify a significantly greater number of issues, (2) identify a significantly greater number of positions associated with these issues, and (3) state a significantly greater number of position rationales than students experiencing the control treatment.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Effect of an Environmental Education Course on Student Behavior Patterns

AUTHOR : Gangloff, Greta DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The goal of an environmental education course should be to develop concepts and values in students that will allow them to live in harmony with their environment. In this study an environmental education course was developed and implemented at Adams Junior High School in Richmond, California. The course utilized the community of the student population as a source of problems for study. It was hoped that by utilizing an environment that was familiar to the students, they would become actively involved in the study of environmental problems and would realize the worth of individual efforts in the solutions to the problems.

If students changed their personal value orientation as a result of new knowledge gained from the environmental education program, changes in behavior patterns that have some relationship to conservation of the environment may become evident in classroom activities. To measure behavioral changes that may reflect attitudinal changes, a behavior survey instrument was developed. The items included on the survey were activities that could be observed during a forty-eight minute class period and could also be observed in both the experimental and control classes. The survey was completed in four classes; two classes involved in the environmental education program and two comparable classes not involved in the program. A pretest was administered at the beginning of the school year and was compared with the results of a posttest given seven months later. The results of the survey indicated that the environmental education course did have a positive effect on environmentally related behavior after the seven month period.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Experiences Related to Oceanic Knowledge and Attitudes of Tenth Grade Students in Virginia

AUTHOR : Rosanne White Fortner DATE OF COMPLETION 1978

INSTITUTION : Ohio State University

DEPARTMENT / PROGRAM :

THESIS ADVISOR :

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : ERIC/SMEAC ED 159 023

SE 024 815

The Survey of Oceanic Attitudes and Knowledge (SOAK) was developed as a method of measuring knowledge and attitudes of tenth grade students and relating those attributes to the students' marine experiences. Fifteen coastal and fifteen inland schools in Virginia were randomly selected as sources of subjects for the study. Analyses of data from 787 tenth grade respondents revealed a statewide knowledge level of about fifty per cent with regard to the marine topics covered by 63 items across three forms of the knowledge survey. Attitudes toward a variety of marine issues were shown to be moderately positive. The relationship between certain demographic variables and the dependent variables of marine attitudes and knowledge was examined. For knowledge, the results indicated the main effects of race, and residence, and interaction between residence and sex. Attitude scores revealed main effects of race only. On the basis of this study, the author recommended that more marine information be included in existing curricula to foster the development of a marine-literate citizenry. (Author/MA)

5. Teacher-Centered Studies

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Literature as an Environmental Education Approach: A Proposal for a Teacher Preparation Program, University of the Philippines.

AUTHOR : Gonzalez, Narita Manuel DATE OF COMPLETION 1976

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The general purpose of this study is to develop an environmental education approach using imaginative literature. It is a proposal for a teacher preparation program at the University of the Philippines.

The specific problems are: (1) to compile a set of objectives to guide the development of an environmental education approach; (2) to integrate environmental education into the curriculum for the elementary teacher preparation program; (3) to identify environmental concepts that will guide the selection of readings from Philippine literature in English; and (4) to provide teaching strategies to show how a short story or poem could be used to teach particularly relevant environmental education concepts.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Urban Ecology: An Audiovisual Presentation

AUTHOR : Lawton, Mary Frost DATE OF COMPLETION 1977

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

In recent decades the need for an environmentally informed citizenry has become evident. Yet our new urban generations have very little chance to develop, through first-hand experience, the understanding of the natural world upon which to build an ecological conscience. There are few agencies offering a teaching program which includes techniques for learning about and enjoying the outdoors through activities based on ecological concepts.

The goal of the Audubon Nature Training Society has been to help children develop awareness and understanding of the out-of-doors, through nature training experiences for adults, especially those who work with children. The teaching program developed to achieve this aim has been successfully carried on in the San Francisco Bay Area for thirteen years under the general heading of urban ecology.

The objective of this project was the development of an outreach program in the form of an audiovisual presentation about the Audubon Nature Training Society's courses on the processes of nature. It includes descriptive titles of a set of thirty-five millimeter color slides with narration explaining activities and techniques representative of the ecological concepts and process objectives included in the Audubon Nature Training Society's programs. It was made for an adult audience to interest teachers, parents, grandparents, and youth leaders in Audubon Nature Training Society's courses and memberships in order to increase the number of trained leaders in outdoor edusation. The audiovisual presentation was field-tested and evaluated through use of a preview questionnaire with two groups. Prior to viewing, one group was knowledgeable about the program; one was not.

A majority of both groups found the audiovisual presentation to achieve the stated objective of introducing the program by showing some content and activities in an Audubon Nature Training Society workshop. More than half of the respondents without prior knowledge of the program evidenced an interest in participating in such a workshop. This would seem to denote a further increase in participants, members and sponsors with showings to more audiences.

The slide show will be announced in various ways, by letter, telephone and in person. It will be shown by ANTS volunteers to interested groups who request it. A long-term final evaluation will be made to determine the effectiveness of the presentation as a promotion and interpretation of Audubon Nature Training Society's urban ecology teaching program for the purpose of increasing the number of environmental educators.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Inservice Environmental Education Model for Bilingual Classroom Personnel

AUTHOR : Nieto, Julia DATE OF COMPLETION 1974

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The purpose of this project is to develop a training program and a curriculum for in-service training in the area of environmental education for bilingual classroom personnel implementing bilingual education programs.

The scope of this project centers on developing a training program for bilingual personnel in grade levels kindergarten through sixth grade. Moreover, environmental education materials are included which could be used to teach elementary school children. Additionally bilingual environmental units will be developed based on the needs generated by this document.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Survey of Hong Kong Elementary Teachers' Attitudes Toward Environmental Education

AUTHOR : Ma, Wun-Ping DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The problem of this study was to find out the general attitudes of the Hong Kong elementary teachers toward the implementation of environmental education in their present curriculum. One hundred sixty Hong Kong elementary teachers who were drawn from four public and four private elementary schools showing high or low academic achievement and high or low community involvement were selected by their school principals to respond to the writer's questionnaire.

The questionnaire covered six questions related to the implementation of environmental education in the elementary school curriculum. These were: (1) attitude about the importance of an environmental education program, (2) acceptance of governmental guidelines, (3) ability (knowledge & skill) to use new methods, (4) willingness to change, (5) finance problems, and (6) time problems. One hundred sixty copies of the questionnaire which were written in both the Chinese and the English languages were mailed to the writer's sister, Miss Florence Ma who then forwarded them to each of the eight selected schools.

The data compiled from the returned questionnaires were tabulated in percentages. One hundred twelve teachers reacted to the questionnaire. All but one public and one private elementary school of low academic achievement and low community involvement cooperated in this study.

It was found that, on the whole, the Hong Kong elementary teachers in this study favored the implementation of environmental education in their present curriculum. They would accept governmental guidelines and materials, and use different methods and techniques in teaching this subject to their students. Most of the teachers in this study possessed average and above average knowledge in teaching environmental educational concepts to their students. Only one-third of the total respondents indicated a need of some in-service training in order to teach environmental education effectively to their students.

Although finance and time allocation were problems for the Hong Kong elementary teachers in this study, and the teachers' opinions on the goal of environmental education were varied, the Hong Kong elementary teachers were willing to integrate environmental education in their curriculum.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : "A K-12 Curriculum Model for Environmental Education: Teaching Toward Ethical Decision-making"

AUTHOR : Carolie B. Sly DATE OF COMPLETION 1979

INSTITUTION : University of California, Berkeley, Berkeley, California

DEPARTMENT / PROGRAM : Education - Instructional Research & Curriculum Design

THESIS ADVISOR : Dr. Lawrence Lowery

ADDRESS OF AUTHOR : R.D. 1, Petersburg, Penn. 16669 or Dept. of Parks & Recreation 267 Recreation Bldg, Penn State University, University Park, PA 16802

WHERE FULL THESIS IS AVAILABLE : from author

This project is directed toward educators of grades K - 12. The project's main purpose is to provide a curriculum model that prepares students to make informed, ethical decisions regarding the environment. The 36 page project contains these sections: Purpose, Rationale, Assumptions, Foundations, Goals and Objectives, Scope and Sequence, Matching Key Concepts and Cognitive Levels, Organization of the Learning Environment, Teaching Strategies, Evaluation and Conclusion.

The curriculum model, designed to prepare students to make ethical decisions regarding the environment, is based on the research and theories of Piaget, Kohlberg and Freire. It lists key concepts which are appropriate for the cognitive development and moral reasoning associated by Piaget and Kohlberg with different age levels and which therefore should be taught at appropriate age levels.

The author lists four major problems contributing to deterioration in the quality of life on earth: depletion of natural resources, exponential population growth, global pollution and unequal distribution of food. The author states that a "global ethic" is necessary for the survival of existing life systems and that educators must assume responsibility for developing among students the knowledge, skills and attitudes necessary for making decisions toward this end.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Attitude change toward the environment and toward outdoor education of counselor-teachers in a resident outdoor education program

AUTHOR : Dianna L. Elliott DATE OF COMPLETION 1978

INSTITUTION : The Pennsylvania State University

DEPARTMENT / PROGRAM : Recreation and Parks

THESIS ADVISOR : Betty van der Smissen

ADDRESS OF AUTHOR : 9101 Frederick Road
Dayton, OH 45414

WHERE FULL THESIS IS AVAILABLE : Pattee Library, Penn State University

This research was designed to evaluate the effectiveness of an outdoor program in changing attitudes of the college student teacher-counselors toward the environment and toward outdoor education.

A 50 instrument capable of measuring the attitude change of teacher-counselors was developed consisting of a modified Wolin's Degree of Certainty Scale and a Likert scale were used in combination.

The instrument was administered to students in college courses which provided opportunities for gaining outdoor leadership experience at the beginning and end of Spring Term 1977. In addition, students who participated as teacher-counselors filled out the Inventory at the end of the week-long experience at the Stone Valley Outdoor School.

Findings showed that initially students who participated at Stone Valley not only had more positive attitudes toward outdoor education and the environment than other students, but also showed significant positive changes in their attitudes. The rest of the study population showed no significant attitude changes.

Recreation and Parks majors as a group had initially more positive attitudes toward outdoor education than Education majors. After the Outdoor School experiences, both groups showed positive changes in attitude toward both outdoor education and the environment. Only the attitudes of teacher-counselors with 10 or fewer weeks of previous outdoor leadership experience changed. Teacher-counselors with more weeks of experience than 10 did not undergo significant attitude change.

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Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Adventures in Environmental Chemistry

AUTHOR : Carmo, Edward F. DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward; Main Library, McHugh Reading Center, Environmental Education Lab.

In recent years there has been increasing interest in ecology and the interrelationships of living things with their environment. There has also evolved the awareness that the environment is being endangered.

Fortunately, children are beginning to realize that energy must be conserved. The need exists for improving the uses of the limited resources remaining, restoring natural environmental systems, and taking advantage of children's curiosity and enjoyment of experimentation in meeting these needs. Children must be motivated to participate in practicing methods of conservation and recycling the earth's limited resources.

The problem of this project was to develop a teacher's guide and accompanying laboratory manual for middle school learners entitled "Adventures in Environmental Chemistry." Using the laboratory manual, children confronted selected problems of pollution that threaten the natural systems of the environment.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Teacher Assessment of the Understanding and Use of "Goals For Curriculum Development in Environmental Education.

AUTHOR : Randall Champeau DATE OF COMPLETION August 1979

INSTITUTION : University of Wisconsin - Stevens Point

DEPARTMENT / PROGRAM : College of Natural Resources

THESIS ADVISOR : Drs. Michael Gross and Richard Wilke

ADDRESS OF AUTHOR : Dept. of Fisheries and Wildlife, Michigan State University, East Lansing, Michigan

WHERE FULL THESIS IS AVAILABLE : UW-Stevens Point, College of Natural Resources

This study was developed with the intent of accomplishing the following eight objectives. (1) To determine if a selected sample of teachers could comprehend the superordinate and subordinate goals as stated in the "Goals for Curriculum Development in Environmental Education." (2) To determine if a selected sample of teachers felt the achievement of the goals should be an important component of every students education. (3) To determine if a selected sample of teachers feel they possess the knowledge and skills necessary to assist students in achieving the Goals. (4) To determine if a selected sample of teachers feel a need exists for teacher workshops designed to provide educators with the knowledge and skills needed to assist students in achieving the Goals. (5) To determine if a selected sample of teachers feel there is a need for K-12 curriculum materials designed to aid students in achieving the Goals. (6) To determine if a selected sample of teachers feel they individually need curriculum materials which could be used to assist their students in achieving the Goals. (7) To determine if the teachers grade or level of instruction relates to the results of objectives one through six. (8) To determine if the teachers area of instruction relates to the results of objectives one through six.

The research tool used to achieve these objectives was a Likert type needs assessment. The assessment was administered by mail, to a random sample of 300 teachers in the Cooperative Educational Services Agency No. 7.

There were 129 completed or partially completed assessments returned.

Through analysis of data provided by the 129 respondents, objectives one through eight were achieved.

It can be concluded from this study that a majority of teachers, in the sample population; a) comprehend the "Goals for Curriculum Development in Environmental Education" as stated, b) feel workshops should be developed to provide educators with the knowledge and skills needed to assist students in achieving the "Goals", c) feel there is a need for K-12 curriculum designed to aid students in achieving the "Goals".

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Some Values in Outdoor Education for Enrichment of Curriculum

AUTHOR : Rossi, John DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, Curriculum Option, Specialization: e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

All outdoor activities can have beneficial values. Communion with nature can bring consolation to many human problems. Physical strength and stamina can be gained by activities outdoors. This is particularly true of backpacking in the mountains.

This writing is concerned with some of the multitiude of values found in nature and especially outdoor education. What are some educators prescribing for outdoor education, and what are the thoughts of John Muir and leaders in the Outward Bound School on venturing out in nature?

It must be said that environmental education today is concerned with correcting the destructive elements of the environment and bringing back to it the freedom and joy that was inherently there.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Pilot Study for Encouraging Teachers to Use an Environmental Learning Center

AUTHOR : Galvin, Marjory L. DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The public school district in Castro Valley, California, owns as part of the property of one of its member schools, a twenty-acre natural area which is within a ten-minute drive from any of the twelve elementary schools. This natural area, referred to as Palomares Nature Reserve (PNR), is rich in educational resources for teaching environmental concepts, and for use as a beautiful and inspiring outdoor classroom, yet few teachers or students benefit from this excellent resource.

The failure of teachers to use PNR represents an educational deprivation for both children and teachers, as well as an uneconomical employment of a district asset. In view of the increased national interest in ecology, conservation of natural resources, and survival skills, one must ask why a school district owning an outdoor site conducive to teaching these and other subjects, has not found a way to promote teachers' use of the area.

The purposes of this study were (1) to identify factors which discourage teachers from using PNR for educational activities, (2) to develop a plan to reduce or eliminate these discouraging factors, (3) to test the plan with a small group of teachers and their classes, (4) to evaluate the effectiveness of the plan, and (5) to suggest recommendations to the school district which would encourage teachers to use PNR as an environmental learning center.

The method employed to achieve these purposes involved nine elementary teachers and 240 children, grades one through six, in an interdisciplinary, outdoor learning pilot project. A combination of perceptual and symbolic modeling was the principle technique used to change the teachers' attitudes. The change was determined through comparison of pretest and posttest responses to an opinionnaire, pre- and post-pilot group discussions, and written records of field trip experiences.

Results showed pronounced positive shifts of attitudes toward willingness to teach outdoors after the pilot program. A further result was extensive volunteer involvement of the community.

An expansion of this pilot project would provide an effective training program for the increased use of PNR as an environmental learning center for elementary teachers of Castro Valley.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Planning Travel to Enhance Classroom Teaching

AUTHOR : Ward, Lucille DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

How can teachers who travel obtain greater educational benefit from their travel for themselves so that their travel experiences can be translated into beneficial learning experiences for their students? In an attempt to answer this question the following steps were taken.

Research was done to establish the idea that people learn best when they are actively involved in the learning process. Travel is one way to learn through direct personal involvement.

A questionnaire to teachers was devised to discover what teachers would like to know in order to facilitate travel, how teachers who travel prepare for their trips, and how the information and artifacts gathered can be used to enhance professional qualities. The results of the questionnaire are presented in this paper.

A travel guide has been prepared to answer questions deemed important by teachers who responded to the questionnaire. It includes suggestions from some of these teachers as well as the author.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Extent of and Need for Interdisciplinary Environmental Education

AUTHOR : Demaray, Elois DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The primary objectives of this research were first, to learn exactly what environmental studies were taught in the middle school levels of area public schools, and secondly, to learn the attitudes of the teachers of these classes concerning the need for environmental education. Particular emphasis was placed on (1) learning how well the immediate environment, of which the student is a part, was used, and (2) learning to what extent the curriculum was interdisciplinary.

The problem was stated as follows: "Are middle school students being taught about the nature of and the need for their personal concern with environmental problems in the region in which they live? Do the teachers of these students have the information and material resources they need to do this teaching?"

A survey instrument was designed that elicited from middle school level teachers the extent of their environmental study.

Findings showed little evidence of any sequential program of environmental studies in the schools represented. Only 24% of the teachers said they had included any kind of regional environmental studies in their teaching. An even smaller percentage of students appeared to be actively involved in studies directly related to their own immediate environment.

There is a great disparity between what people, including these teachers, are saying needs to be done in the way of interdisciplinary environmental teaching, and what is actually happening in classrooms. Teacher attitudes indicate a great need for in-service training and more resources, or at least better access to the resources that are available.

The author concludes that more support is needed for environmental studies at all levels, national, state, county, and local, in order to actually implement interdisciplinary environmental curricula into the public school program.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Environmental Education Intern Process: An Evaluation

AUTHOR : Ms. Janis Albright **DATE OF COMPLETION** May, 1979

INSTITUTION :

DEPARTMENT / PROGRAM : Behavior & Environment, School of Natural Resources, Univ. of Michigan

THESIS ADVISOR : Dr. William B. Stapp - Dr. Rachel Kaplan

ADDRESS OF AUTHOR : 21 Tower Hill Rd., N. Kingstown, R. I. 02852

WHERE FULL THESIS IS AVAILABLE : Natural Resource Library
University of Michigan

This thesis formulates and evaluates an environmental education intern process based on existing models and the practical experience of the author. The formulation is based on these major questions:

1. What skills and knowledge does an environmental educator need to learn?
2. What is an effective process to help interns master the skills and knowledge so that they can become effective environmental educators?

The evaluation is based on two different approaches built into the intern process. Specifically, the author compares a knowledge approach which emphasizes to the intern a need to master content material versus a teaching technique, which emphasizes a need to master outdoor teaching techniques.

The setting for this study is an outdoor school site where interns teach forest ecology to upper elementary students over a four month time span.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Changes in Attitudes Toward Environmental Education and Selected Teaching Behaviors of Teachers Participating in Environmental Education Workshops

AUTHOR : Teresa A. Meyers **DATE OF COMPLETION** 1979

INSTITUTION : Ohio State University

DEPARTMENT / PROGRAM :

THESIS ADVISOR : Robert Roth

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : ERIC/SMEAC ED 170 170
SE 027 686

This study examined four teacher in-service environmental education programs to: (1) suggest a workable evaluative model for such programs; (2) assess their content with respect to stated activities and objectives; and (3)determine whetеher or not the experiences correlated with changes in selected teaching behaviors. The research design included observation, a descriptive survey, and ex post facto methods. An experimental group, comprised of in-service participants, and a control group, made up of two sub-groups of teachers, completed pre- and post-questionnaires. Principals of all research subjects also received questionnaires. A significant discrepancy was found, using ANOVA, in what the teachers and the principals reported administrators' attitudes toward environmental education to be. Correlated t-tests showed significant increases from pre- to post-study in: (1) the amount of time the experimental subjects spend teaching environmental education, and (2) the number who took environmentally-oriented field trips. Pearson product-moment correlations indicated that the more teachers had been exposed to environmental education in-service programs, the more time they spent on environmental lessons in their classrooms. Strong positive correlations were also found between attitudes and behaviors with respect to three pairs of variables. There were varying degrees of success among the four programs in completion of the activities originally intended by the in-service leaders. (Author/BB)

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Study of the Influence on Participants of an Environmental Education Workshop

AUTHOR : Burnworth, Maxine DATE OF COMPLETION 1979

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The Educational Code of the State of California requires that "wise use of natural resources and protection of the environment be taught in all appropriate grade levels and subject areas." Relatively few teachers have the background to teach environmental studies. Occasionally a course or workshop is offered to update teaching methods and the curriculum in environmental education. One such workshop, supported by a grant from the United State Office of Education, was sponsored in 1969-1970 by the Education Professions Development Act (EPDA) for teachers of Alameda and Contra Costa Counties. Dr. Esther Railton, Professor at California State University, Hayward, was the instructor, assisted by naturalists from the East Bay Regional Park District.

By means of a three page questionnaire, the 210 participants were asked in 1979, to express their opinions of the ways in which the EPDA workshop influenced their personal and professional lives.

The 113 who responded were generally enthusiastic about the benefits they reported gained through their experiences. Participant perception of workshop value was very positive. One-fourth have had job changes which allow them to teach more about the environment. Eight out of every ten are currently involved in environmental education. Continued interest in the field was indicated by reported additional course work undertaken and requests for a follow-up to the workshop.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Comparison of Selected Training Programs for Environmental Education Volunteers

AUTHOR : Hallesy, Mary DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The purpose of this investigation was to compare selected training programs for volunteers in environmental education in the San Francisco Bay Area. The study was designed to assist potential administrators of such programs to ascertain ways of finding and training such personnel to assist the classroom teacher in implementing environmental education.

The method was to describe, gather data and informed opinion about five existing programs. They were selected because they vary in training procedures, funding, expectation of volunteers, and directions for the future. The programs described in order of their inceptions are: The Oakland Museum Natural History Docent Program, Audubon Canyon Ranch Volunteer Program, Hidden Villa Environmental Education Program, the Environmental Volunteer Program and the Redwood Docent Program at Big Basin State Park.

A structured interview with the administrator was held and information was obtained on organization, administration, program training, funding, and future directions. A random sampling of 20% of all the volunteers currently active received a questionnaire. An 85% return resulted in a profile of the typical volunteer, and the results are summarized appropriately.

The results of this study conclude that there are many dedicated people who want to get involved with environmental education, want more knowledge, and then want to communicate that to others. These people are also ready to take personal action to protect and preserve the environment as a result of their new knowledge. They have a wide range of talents to contribute and, if properly directed, form a valuable resource to the whole community.

6. Citizen-Centered Studies

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : PUBLIC INVOLVEMENT IN THE USDA FOREST SERVICE

AUTHOR : M. A. PRESS **DATE OF COMPLETION** 1979

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR : P. ELDER

ADDRESS OF AUTHOR : 50 BRADFORD AVENUE
SHARON, MASS. 02067

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

This report examines key controversies which occurred in the USDA Forest Service's Northern Region during the 1960's. Three controversies are described: those revolving around the Lincoln Back Country, the Magruder Corridor, and the Bitterroot National Forest. Public dissatisfaction stemming from these issues and others outside the Northern Region caused the Forest Service to change its approach in relating to the citizens for whom they manage public lands. Both institutional and conceptual changes needed to make public involvement an accepted practice are summarized.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : BEVERAGE CONTAINER DEPOSIT LEGISLATION -- A Paradigm For Future Environmental Progress

AUTHOR : Mark Alexander Ishkanian **DATE OF COMPLETION** August 1979

INSTITUTION : Cornell University

DEPARTMENT / PROGRAM : Science & Environmental Education/Department of Education

THESIS ADVISOR : Dr. Richard B. Fischer

ADDRESS OF AUTHOR : Stone Hall, Cornell University, Ithaca, NY 14853

WHERE FULL THESIS IS AVAILABLE : University Library

An alternative to the direct regulatory approach for solving environmental problems, an approach currently subscribed to in the United States, is the charge method. Its use has most widely been applied in six states to a mandatory charge or deposit on beverage containers. This "deposit" solution to a particularly wasteful symbol of the American lifestyle is an important harbinger for future environmental problem solving.

The throwaway beverage container issue is reviewed in this light. The problem of throwaways developed during a period of industrial expansion and intensified resource use. Its introduction into the marketplace is an example of a private economic decision-making inflicting public (social) costs. This problem closely parallels Hardin's "Tragedy of the Commons" scenario (1968).

Deposit legislation utilizes the economic incentive of the "polluter pays" principle whereby the individual, and not society, is penalized for unacceptable environmental behavior. In those states that have enacted a deposit law, the results have been extremely positive. Individuals are willing to accept responsibility for environmentally beneficial behavior when it is economically favorable to do so.

The throwaway beverage container is the ultimate symbol of America's capricious attitude towards its resources and evnironment. This attitude evolved during an era of abundance and is no longer appropriate for the future. The deposit solution represents a logical beginning towards reform of that attitude and lifestyle. The use of an economic incentive to elicit positive environmental behavior has application in many other environmental problem areas as well.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

Preference Input Forms as a Method of Obtaining Feedback From Citizen Advisory Committees in the Public Participation Program of a Water Resources Planning Study

TITLE : Preference Input Forms as a Method of Obtaining Feedback From Citizen Advisory Committees in the Public Participation Program of a Water Resources Planning Study

AUTHOR : Josephine Marquis Smith **DATE OF COMPLETION** 1976

INSTITUTION : Ohio State University

DEPARTMENT / PROGRAM :

THESIS ADVISOR : John Disinger

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : ERIC/SMEAC ED152 484
SE 022 858

Reported is a study of a preference input form as a means of obtaining input for incorporating advisory committee preferences into the planning process for water resource management. Two input forms were used at eastern and western Study Area Committee (SAC) meetings, for study area 8 of the Comprehensive Water Quality Management Plan (COWAMP) in northwestern Pennsylvania. Problems in organization and administration of the study were encountered and are discussed. Results indicate that the groups favored moderate management policies the most and that even though the groups ranked certain amenities desireable, those same amenities received moderate management policy ratings. (MR)

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Diffuse Concerns: An Assessment of the PLUARG Public Consultation Program

AUTHOR : R.A. Mason **DATE OF COMPLETION** Sept. 1979

INSTITUTION : University of Toronto

DEPARTMENT / PROGRAM : Geography/Environmental Studies

THESIS ADVISOR : Dr. A.P. Grima

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University of Toronto, Toronto, Ontario M5S 1A4

WHERE FULL THESIS IS AVAILABLE : Department of Geography
University of Toronto, Toronto, Canada M5S 1A1

Under provision of the Great Lakes Water Quality Agreement of 1972, the governments of Canada and the United States directed the International Joint Commission (IJC) to investigate impacts upon water quality in the Great Lakes Basin from a broad range of land uses, and to ultimately recommend most practicable measures for dealing with the problems identified. The Pollution from Land Use Activities Reference Group (PLUARG) was established in late 1972 to meet the IJC terms of reference. During 1977, PLUARG initiated a public consultation program. Seventeen citizen panels (nine American panels, eight Canadian panels) were established. These panels reported to PLUARG on land use issues in the basin, and suggested remedial measures for the pollution problems which were identified.

The PLUARG public consultation program has been unique in terms of the combined factors of geographic extent, international character, and the use of citizen panels in consulting the public. It therefore presents a valuable opportunity for assessing some of the similarities and differences in the facts, values, and opinions that were expressed by citizens of different localities and of two different nations. The public consultation program is evaluated in terms of the degree to which the recommendations of the panels were adopted by PLUARG, in terms of attainment of stated and perceived objectives, and in terms of general satisfaction of those who have participated. The overall "success" of the program is discussed in terms of these criteria.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : LAND USE POLICY FORMULATION IN NORTHERN COMMUNITIES

AUTHOR : K. L. PERSSON **DATE OF COMPLETION** 1975

INSTITUTION : THE UNIVERSITY OF ALBERTA

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR : 210 - 2 AVENUE S.W.
CALGARY, ALBERTA T2P 0C2

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

This document provides a normative and descriptive overview of the process of land use policy formulation in the Canadian North. Two major issues are identified, that of excessive delegation by elected officials of decision-making authority to technical personnel and the failure to involve people affected by the decision in the decision-making process. The author's analytic methodology is applied to a case study of Hay River, N.W.T.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Study of Variables Associated With Environmental Action and Locus of Control Among Four Dissimilar Populations.

AUTHOR : Joyce Mowery Smith **DATE OF COMPLETION** August 1979

INSTITUTION : Southern Illinois University at Carbondale

DEPARTMENT / PROGRAM : Elementary Education/Environmental Education

THESIS ADVISOR : Harold R. Hungerford, Professor

ADDRESS OF AUTHOR : Cairo Senior High School, Cairo, Illinois 62914

WHERE FULL THESIS IS AVAILABLE : Morris Library, Southern Illinois University, Carbondale, Illinois 62901

This project attempted to study both citizenship action partcipation and locus of control among four different populations. Included were: EE and Resource Management Majors at two major universities (N = 43), Nature Interpretation students (N = 22), Preservice Elementary Teachers (N = 17), and Inservice Teachers enrolled in a NSF Science Institute (N = 21).

With respect to action involvement, it was found that EE and Resource Management majors were significantly more involved than any of the other groups. Nature Interpretation students were less involved than this group but more than either of the two remaining groups.

One significant correlation (alpha = .05) existed between environmental action participation and locus of control. This was observed within the EE/Resource Management group. This group was observed to be substantially more internal with respect to locus of control than any of the other groups.

Findings in this study seemed to support those established in an earlier study conducted by William J. Bluhm (SIU-C). Bluhm found that environmental educators were substantially more involved in citizenship action than any of the other groups surveyed (environmental education coordinators, preservice elementary teachers, and members of the general public).

The researcher recommends additional research being conducted concerning the variables associated with citizenship participation in environmental issue remediation.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : ATTITUDES, VALUES, COMMUNICATION PRINCIPLES, AND THE ANALYSIS OF WASTE MANAGEMENT POLICY FOR COLD CLIMATES

AUTHOR : F. J. TESTER DATE OF COMPLETION 1975

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR : 204 - 15 STREET N.W.
CALGARY, ALBERTA T2N 3A7

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

This document examines the problems associated with policy formulation and planning for waste management facilities in the Canadian North. The author comments on methods of increasing the effectiveness of communication between planners and people and on the cultural differences which complicate any involvement of the white man with the Inuit. Several planning models are examined with one called "choice and inherent value" being selected as optimal.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Employee-Public Evaluation of Industrial Pollution Control

AUTHOR : Mark A. Stelmacher DATE OF COMPLETION 1978

INSTITUTION : University of Wisconsin

DEPARTMENT / PROGRAM : Agricultural Journalism

THESIS ADVISOR : Marion R. Brown

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : Department of Agricultural Journalism
440 Henry Mall, University of Wisconsin, Madison, Wis 53706

This study investigates whether the employees of a company involved in a pollution control program have different attitudes than local resident non-employees regarding certain environmental issues. It examines three primary influences on environmental attitude: employment, physical proximity to company plants and recreational preferences.

The research was conducted in Wisconsin Rapids, Wisconsin. The author interviewed 37 community citizens and 24 full-time employees of Consolidated Papers Incorporated (CPI), the major employer in the community.

Respondents were asked to rate CPI's environmental protection efforts. They also evaluated local water and air quality and named the major local pollution sources. The Chaffee-McLeod coorientation model was applied to the respondents' assessments of CPI's pollution control program. Agreement, congruency, accuracy and understanding were measured.

Citizens and employees did not agree on the effectiveness of the CPI environmental protection program. Employees rated the program significantly higher than did citizens. Congruency or expected agreement between the groups was low for water pollution ratings and was high for air pollution ratings. The groups perceived both agreement and disagreement. Physical proximity to the company plant did not influence respondents' opinions.

Citizens and employees who participated in water sports rated water quality lower than did citizens and employees who did not participate in water sports. However, these groups did not differ in their ratings of CPI's water pollution control program. Finally CPI was named as the major local source of both water and air pollution by the respondents.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : AN INVESTIGATION OF THE RELATIONSHIP BETWEEN "SENSE OF COMMUNITY" AND THE PHYSICAL ENVIRONMENT OF RESIDENTIAL AREAS

AUTHOR : M. F. SOPER **DATE OF COMPLETION** 1979

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR : J. WAUGH

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VANCOUVER, B.C. V6M 1N3

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

Review of the planning of urban residential areas has indicated that the relationship between "sense of community" and the physical environment has not been well understood. Awareness of the structure and functions of "sense of community" and of people's use and interpretation of environments are vital to understanding this relationship

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Resource Recovery in McHenry County-- Present Practice and Future Possibilities

AUTHOR : Alice Vild Hewenstine **DATE OF COMPLETION** 8/79

INSTITUTION : Northeastern Illinois University

DEPARTMENT / PROGRAM : Department of Geography and Environmental Studies

THESIS ADVISOR : Dr. Barbara Winston

ADDRESS OF AUTHOR : 4614 N. Pioneer Rd., McHenry, Illinois 60050

WHERE FULL THESIS IS AVAILABLE : Dept. of Geography and Environmental Studies and Northeastern Ill. University Library

This study surveys the existing recycling efforts going on in McHenry County as of early 1979, with special emphasis on the development of and the procedure followed by the two largest efforts: the county environmental group monthly recycling drives in Crystal Lake and McHenry. Also included is an overview of fourteen additional recycling efforts carried on in other parts of Illinois and the United States. These out-of-county projects were chosen in part because they portray alternative methods for low-technology resource recovery.

In McHenry County, as elsewhere, the problem of what to do with the ever increasing volume of solid waste continues to grow, and the answers become harder to find. In addition, natural resources are diminishing. They must be conserved and reused to a greater extent than is now being done. Resource recovery in McHenry County at present consists of seventeen recycling efforts, none of which are municipally sponsored. These efforts remove approximately 1700 tons of reusable resources from the solid waste stream annually.

Various high-technology resource recovery methods are examined, and a low-technology resource recovery/recycling center is proposed, building on the positive aspects of existing recycling projects in and out of the county.

The amount of energy and capital expended in the construction and operation of a low-technology resource recovery/recycling center is minimal when compared with high-technology resource recovery plants. Yet the material capable of being pulled from the solid waste stream is equivalent in quantity and usually of a higher quality.

The study concludes that, for McHenry County, low-technology resource recovery is the path to follow. The pattern has already been established in the county through the seventeen existing recycling projects. With minimal effort at least some of these projects could be expanded and given permanent facilities under either municipal or county sponsorship. Good public education and widespread citizen involvement would be basic to a successful program.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : NOSE HILL: CONCEPTS FOR ITS USE

AUTHOR : S. BARBER **DATE OF COMPLETION** 1974

INSTITUTION : THE UNIVERSITY OF CALGARY

DEPARTMENT / PROGRAM : THE FACULTY OF ENVIRONMENTAL DESIGN

THESIS ADVISOR :

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : THE FACULTY OF ENVIRONMENTAL DESIGN

The study is meant to assist Calgarians in understanding the issue of Nose Hill area development so that they can participate in public discussions in a more meaningful way.

Environmental Education/Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : FLOOD RISK MAPS, AND LOCAL ATTITUDES TO FLOODS AND FLOOD MITIGATION, AS PART OF THE NATIONAL FLOOD DAMAGE REDUCTION PROGRAM: A COMPARATIVE REVIEW

AUTHOR : JOHN W. HANDMER **DATE OF COMPLETION** 1979

INSTITUTION : UNIVERSITY OF TORONTO, TORONTO, ONTARIO, CANADA, M5S 1A4

DEPARTMENT / PROGRAM : GEOGRAPHY

THESIS ADVISOR : ANNE WHYTE

ADDRESS OF AUTHOR : AUSTRALIAN NATIONAL UNIVERSITY, BOX 4, P.O., CANBERRA, A.C.T. 2600

WHERE FULL THESIS IS AVAILABLE :

The joint Canadian federal-provincial Flood Damage Reduction Program (F.D.R.P.), announced in 1975, is an attempt to establish a national flood policy. The program is dependent on provincial cooperation with Ottawa, which is typically obtained through financial inducements offered by the Canadian Government.

The key to the program, and the central thrust of this paper, are the flood hazard maps to be prepared, according to national standards, for all flood prone communities in the participating provinces. The maps will serve to define the extent of the flood problem, and to then act as a basis for public information programs, flood plain zoning regulations, and other measures. To develop expertise, a number of pilot mapping projects have been undertaken at different locations across Canada.

This paper reports on the first phase, up to December 1978, of a research project designed to evaluate the F.D.R.P. mapping. The evaluation project is in two phases proposed to run over a total of two years beginning in April 1978 and scheduled for completion March 1980.

The evaluation project addresses itself to three main objectives:

(i) To study the impact of the flood hazard maps prepared under the pilot F.D.R.P. on the assessment and awareness of flood risks as perceived at the community level, and to determine on what the impact depends.

(ii) To identify appropriate target audiences for the maps, and to establish the degree of success in reaching them.

(iii) To critically review the management of the pilot F.D.R.P. projects and the implementation of the full F.D.R.P..

The major part of the field-work is a comparison of pre- and post-map distribution surveys of public knowledge and attitudes at Oshawa, Ontario. The sampling procedure for the two surveys together with a deliberate distribution strategy for the maps has enabled the establishment of control groups, and has set up a quasi experimental situation.

Apart from the main field-work location of Oshawa, two sites in the prairies, Moose Jaw and Carman were chosen as additional case studies. Pilot F.D.R.P. mapping and public information projects are underway at all three places.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Paradigms For Paradise: A Study Of Environmental Values In The United States

AUTHOR : Judith Bonney Meckling **DATE OF COMPLETION** May 1979

INSTITUTION : Cornell University

DEPARTMENT / PROGRAM : Science and Environmental Education/Department of Education

THESIS ADVISOR : Dr. Richard B. Fischer

ADDRESS OF AUTHOR : Stone Hall, Cornell University, Ithaca, NY 14853

WHERE FULL THESIS IS AVAILABLE : University Library

This is a study of the values, attitudes, and lifestyles which have contributed to America's environmental problems. My purpose is to present, for lay persons, a philosophical overview of how we in the United States have arrived at ways to see and deal with the environment. With this broad background as a starting point, it is hoped that persons will be better able to identify how environmental problems have developed and how they may be confronted in terms of our present values as individuals and as a society.

This study begins with a survey of how humans have viewed themselves in relation to nature in the Western world. This progression is then examined in terms of its effect on the development of an American perspective toward nature. Then the development of the environmental movement is looked at in some detail, and the issue of environmental education is explored. Finally, possibilities for the future are presented and avenues of change are suggested.

The modern tendency is to look for solutions to very specific and immediate manifestations of problems. This seems to me to be a result of our leaning toward an anlaytical perspective to the exclusion of a broader understanding which may bring more intuitive functions into play. This survey attempts to serve as a starting place for exploring the underlying values which have contributed to the specific problems we now face. Perhaps a broader look at our environmental problems will enable us to look at the issues from a more balanced perspective. Then we will be able to make more responsible decisions based on a fuller understanding of where we've been and where we need to go.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Attitudes of the Public and Citizen Advisory Committee Members Toward Land and Water Resources in the Maumee River Basin

AUTHOR : Calvin Lee Taylor **DATE OF COMPLETION** 1977

INSTITUTION : Ohio State University

DEPARTMENT / PROGRAM :

THESIS ADVISOR :

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : ERIC/SMEAC ED 152 485
SE 022 920

The reported study was conducted to determine the extent to which active participants of a Citizen's Advisory Committee (CAC) were representative of the general public in land and water resource attitudes. All 39 members of the Maumee River Basin Level B CAC and a random sample of 400 Basin residents were given a Likert-type scale to measure their attitudes about governmental leaders and agencies with these resources, and the role that citizens and the government should have in land and water resource decisions. Demographic data were also collected. Although the CAC members were not demographically reflective of the general public of the Basin, it was concluded that they were reflective of the public in terms of attitudes toward land and water resources and the role of government and the citizen in land and water resource decisions. (MR)

7. Resources, Administration and Others

Environmental Education / Communication Project or Thesis Report Form

Improving Access to Master's Theses in Environmental Education

National Association for Environmental Education

TITLE :

AUTHOR : Christopher Yuen DATE OF COMPLETION Feb. 1980

INSTITUTION : SUNY College of Environmental Science and Forestry

DEPARTMENT / PROGRAM : Environmental Science

THESIS ADVISOR : Dr. David Hanselman

ADDRESS OF AUTHOR : 1008 Kahoa Road, Hilo, Hawaii 96720

WHERE FULL THESIS IS AVAILABLE : Moon Library, SUNY College of Environmental Science, Syracuse, New York 13210

The field of environmental education and communications has developed an extensive research literature despite being a comparatively young field. Master's theses in the field have proven difficult to obtain, and this gap in access could hamper effective research and sound educational planning.

This thesis describes a project to obtain and disseminate master's theses which resulted in the compilation of 61 abstracts of master's theses in environmental education and communications. These were published in April 1978 under the title Recent Masters Thesis Work in Environmental Education and Communications.

Environmental educators were surveyed to uncover their use of various informational tools available to them, and the usefulness of the compilation of abstracts. In addition, authors of master's theses in environmental education were queried to find formal and informal patterns of distribution of their studies.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Study of Selected Env. Ed. Corrdinators in the Commonwealth of Pa

AUTHOR : Christene A. Almon DATE OF COMPLETION 8/78

INSTITUTION : Slippery Rock State College

DEPARTMENT / PROGRAM : Environmental Education

THESIS ADVISOR : Dr. Craig Chase

ADDRESS OF AUTHOR : ?

WHERE FULL THESIS IS AVAILABLE : Slippery Rock State College Library

Ten Environmental Education Coordinators were interviewed to determine how effective Environmental Coordinators are as directors of environmental education programs and in what directions the state should be heading in regards to proper education, training and experience of future coordinators. It was found that active support of the program as well as administrative expertise by the Coordinator are needed to carry out a successful program. It was also concluded that Pennsylvania's present approach to incorporating environmental education into the school curriculum is inefficient and that greater support by the state is needed to sanction recognition of environmental education by the school districts.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Environmental Impact as Related to Financial Institutions

AUTHOR : Littles, Bennie DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

The purpose of this project was to investigate the attitudes of several financial institutions' management views toward financing ecological educational projects. The institutions that were used to collect the data were: United California Bank, Bank of America, Redwood Bank, First National Bank, Crocker National Bank, and Security Pacific National Bank.

The method of collecting the data was through interviews of no less than one and a maximum of ten similar officers from each institution. The interviewer used an attitude checklist in collecting the data.

The results showed a change in attitude on the part of management toward financing ecological educational projects. However, because of federal government laws prohibiting certain information and the probability of monopoly, conflict of interest, and low profile that financial institutions traditionally hold, these institutions were hesitant to give direct grants to companies of individuals.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The History and Development of the Department of Natural Resources at Ball State University, Muncie, Indiana.

AUTHOR : Pamela Sue Popovich DATE OF COMPLETION June 1979

INSTITUTION : Ball State University

DEPARTMENT / PROGRAM : Department of Natural Resources

THESIS ADVISOR : Dr. Donald E. Van Meter

ADDRESS OF AUTHOR : R. R. 1, Box 94C
Albany, IN 47320

WHERE FULL THESIS IS AVAILABLE : Bracken Library, Ball State University, Muncie, Indiana

This thesis has traced the history and chronological development of the academic Department of Natural Resources at Ball State University by researching printed matter concerning the department and by conducting interviews with the people concerned.

The history included recent happenings within the department, i.e., course offering implementations, and dates of the movement from program (1967) to institute (1970) to department (1974). It also included the past history of Ball State Teachers College (which became the present Ball State University) and early interest in natural resources courses first offered in 1919. Of particular interest was the research on the Natural Resources Advisory Committee which met from 1965 to 1973 and which formulated the early aspects of the natural resources program and developed them into the present department.

The development of the department was researched using personal and written interviews and was basically an assessment of the progress of the present department. Comments were obtained from Natural Resources Advisory Committee members, past and present faculty, graduates of the department and employees of the Indiana Department of Natural Resources. The consensus of opinion was that the creation of the department was due to the hard work and dedication of its present chairman, Dr. Clyde Hibbs.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Development of Marine Science Mini-units for Use on the Secondary Level

AUTHOR : WERNER, Milton DATE OF COMPLETION 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: McHugh Reading Center, Environmental Education Lab.

This project was the development of marine science mini-units that could be taught on the secondary level to students who live near marine environments. A number of resources were used to develop these units since no one resource seemed adequate to this writer.

Three sets of mini-units were developed. Chemical tests were designed to investigate sea water, the primary medium which affects a marine environment. Physical tests tell of the physical nature of sea water, mainly through using one's senses. The plant and animal studies use methods of identification, observation and interpretation.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Henry David Thoreau: A Qualitative Naturalist's Approach/ to Nature Study

AUTHOR : David A. Pepi DATE OF COMPLETION January 1980

INSTITUTION : Cornell University

DEPARTMENT / PROGRAM : Education/ Science & Environmental Education

THESIS ADVISOR : Verne N. Rockcastle

ADDRESS OF AUTHOR : Room 306 Fernow Hall, Department of Natural Resources, Cornell University, Ithaca, NY. 14853

WHERE FULL THESIS IS AVAILABLE : Library, College of Agriculture, Ithaca, N.Y.. Also 18 Stone Hall, Cornell University, Ithaca, N.Y. 14853

This paper presents an explanation of Henry David Thoreau's approach to nature study. It is intended for environmental educators. The paper is divided into two parts. In the first part the principles which underlie Thoreau's approach to nature study are presented and discussed. The second part of the paper presents some of the techniques Thoreau used in the field, and a method of verifying certain of Thoreau's assertions.

The paper is based on a critical analysis of The Writings of Henry David Thoreau (20 volumes; Boston: Houghton Mifflin, 1906). Generalizations were made concerning the principles and practice of Thoreau's method of nature study, which I call qualitative natural history. It is based on five principles, the most seminal of these being the assumption that objects and events in nature have intrinsic value.

"Intrinsic value" refers to those qualities an object possesses which enable one to apprehend it on the level of immediate experience apart from causal connections and relationships. Thoreau assumed that when a person perceived intrinsic values he confronted nature directly and at a primordial level. He believed that concrete knowledge of this kind had to precede abstract knowledge, as well as actions based on abstract knowledge, if man was to act in harmony with the kind of thing he is and the kind of thing nature is.

Until quite recently, elements of Thoreau's approach to nature study have played an important role in nature education. However, some contemporary environmental educators have emphasized environmental problem solving at the expense of environmental appreciation. This paper asserts the futility of such an approach and attempts to explain why nature appreciation must come before environmental problem solving in any environmental education program.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Evaluation of a Teacher's Guide Integrating a School Garden with Curriculum

AUTHOR : Peterson, Dianne L. DATE OF COMPLETION : 1978

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab

The purpose of this study was to assess the instructional value of a curriculum guide developed to demonstrate the integration of a school garden with traditional curriculum.

Justification for the study was demonstrated in the literature review. It was shown that curriculum materials for school garden programs are available. However, the existing resources require considerable research time for educators attempting to implement these materials. Therefore, need was established for the development of a comprehensive curriculum guide for school garden programs.

The instrument for the evaluations was a researcher-developed questionnaire, distributed to forty-nine educators. The major hypothesis of this study was accepted, the curriculum guide was judged as a useful resource tool for individuals desiring to begin a school garden program. It did provide needed technical information and lesson plans that helped integrate the garden into the curriculum. There was no supporting evidence to conclude that an educator's school gardening experience had effected the evaluation of the curriculum guide.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : The Nature And Extent Of Raptor Shooting In The Northeast With Recommendations For An Education Program

AUTHOR : Bruce Wright Talbot DATE OF COMPLETION January 1980

INSTITUTION : Cornell University

DEPARTMENT / PROGRAM : Science & Environmental Education/Department of Education

THESIS ADVISOR : Dr. Richard B. Fischer

ADDRESS OF AUTHOR : Stone Hall, Cornell University, Ithaca, NY 14853

WHERE FULL THESIS IS AVAILABLE : University Library

With the implementation of management programs to increase bald eagle populations and to re-establish peregrine flacons in the Northeast, there is increased interest in reducing limiting factors that threaten the success of these efforts. Illegal shooting is one such factor. Determining the nature and extent of illegal gunning is necessary in order to decide if present shooting levels warrant comprehensive preventative measures. If so, the implementation of education programs, rather than additional laws, appears to be the most effective method presently available for abating these shooting losses. For effective design and implementation, identifying a particular segment of the human population to which this education program should be directed is essential.

Findings indicate that raptor shooting has decreased dramatically over the last 50 years and continues to show a decline even during the last decade. There were documented bald eagle shooting incidents in almost all the Northeastern states. However, most took place in the southeastern third of Maine. There have been five documented incidents of peregrine falcons from the Eastern Reintroduction Program being shot.

Findings in this study indicate that a raptor conservation education program might be of a more generalized nature rather than specifically directed at reducing shooting losses. Specific objectives and methods for the design of this program are presented. Recommendations also include suggestions for an on-going monitoring program, improved enforcement efforts, and an attitude survey.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Crafts and Simple Teaching Devices for Environmental Education

AUTHOR : McNeel, John L. DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

There are many districts, schools, and teachers becoming aware of the problems of the environment and incorporating a study of environmental education into their curriculum.

The teachers who have just begun to teach about the environment, and who are facing their first experience in the field with their students, may have some difficulty in obtaining a variety of teaching devices to use with the students. This thesis collects and compiles "Crafts and Simple Teaching Devices for Environmental Education". These have been selected from several different sources and are presented in a how-to-do-it fashion, with line drawings and instructions to aid the teacher and student.

Many of these crafts and teaching devices have been field tested by this author. Prerequisite for inclusion in this study is that they must be fairly simple to construct, use supplies that are natural or recycled, do not damage the environment, are easily obtained, and most importantly, can be used by the teacher or school district working within a small budget.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Farm, Food and Environmental Education, a Manual for Elementary School Teachers

AUTHOR : Jorgensen, Eric L. DATE OF COMPLETION 1977

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization: e.e.

THESIS ADVISOR : Dr. Rita Peterson

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

Food is one key link which easily reaffirms man's dependence upon the environment. But the family farm or a summer's visit to grandfather's farm are memories of the past, memories for some adults but few children. Urbanization and agri-business have absorbed much of the farmland surrounding the conglomerates of people. Most youngsters today are only secondarily acquainted with food, that is as a commodity to be purchased. Packaging, processing, and refining have futher disguised foods. The association of food items with their plant and animal origins is limited. This then is one challenge for education: creation of farm education programs which significatly enhance a child's understanding of and attitudes towards food and the multiple environmental factors intertwined.

The purpose of this project is to develop a manual on farm and food education for use in elementary schools. In Section 1 of this manual, important environmental questions and ecological and social practices affecting farming are examined and described for teachers in terms of educational implications. Thus teachers can become acquainted with the necessity for instruction of the proposed curriculum. In Section 2 specific goals for curriculum development are articulated and curriculum for achievement of the goals provided.

The project does not include agricultural techniques for developing future farmers nor does it propose to examine and develop curriculum for careers in agriculture. The farm program does not propose to be economically sound but rather ecologically and environmentally instructive. Further, the manual does not propose criteria or processes for site selection and development.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : A Guide to the Common Wild Shrubs and Vines of Pennsylvania

AUTHOR : Robert Maloney DATE OF COMPLETION 7/79

INSTITUTION : Slippery Rock State College

DEPARTMENT / PROGRAM : Environmental Education

THESIS ADVISOR : Dr. Craig Chase

ADDRESS OF AUTHOR : Box 742, Big Stone Gap, Virginia 24219

WHERE FULL THESIS IS AVAILABLE : Slippery Rock State College

Sixty common wild shrubs and vines of Pennsylvania were selected as being among the most frequently encountered species are included in an effort to make field identification feasible to the amateur naturalist, as well as to any individual with an interest in their natural environment.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

TITLE : Eco-Tour

AUTHOR : Ockerman, Phil DATE OF COMPLETION 1975

INSTITUTION : California State University, Hayward, Hayward, CA 94542

DEPARTMENT / PROGRAM : Teacher Education, curriculum option, specialization e.e.

THESIS ADVISOR : Esther P. Railton, Ed.D.

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : California State University, Hayward: Main Library, McHugh Reading Center, Environmental Education Lab.

How can a non-profit organization provide educational trips and tours for students in school or for youths in the various youth-serving agencies? The idea of forming such an organization goes back several years when the author and several professional workers in the YMCA were concerned about the amount of time and energy necessary to "put together" a trip. At that time, the group conceived an umbrella-type plan for which the main function could be the conceiving, planning and direction of trips and tours for, as it was originally conceived, the YMCA.

The question: is it a viable idea and would it work for all student and youth groups? It is the belief of the author that it is for several reasons.

1. School district and agency executives have difficulty in freeing staff to do the necessary planning for trips or tours as it is believed to be "non-productive" time, i.e., non-teaching. Therefore, the individual interested in such activity must do it on his own time without the sanction or permission from the district or agency.
2. The individual teacher or program director, though seeing the desireability of the trip, does not want the responsibility and the "hassle" involved in the preparation and direction of such activity.
3. In the school districts or agencies where study trips are being done, highly motivated individuals with good support from administration are providing enriching experiences for students or members. However, it is not available to all. These school districts or agencies are scattered, and the majority of pupils do not have such an advantage.
4. It would not be the aim of Eco-Tour to service these outstanding, innovative, but isolated, groups but to provide service to others who wish to take advantage of such conception, planning, and direction for trips and tours.

The most universal response to the idea is oneof enthusiastic acceptance. Apparently, there is very little being done and the need is great. Eco-Tour will work through organizations using their members, their leaders, their names, their format, and their organization. In every sense, the trip, tour, or excursion will be operated as if the contracting organization were running it. Eco-Tour will act as a catalyst, an enabler, to see that schools, churches and youth organizations can offer such enrichment to their membership.

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

The Potential for Managing Various Insects and Their Habitats for Educational Purposes

TITLE :

AUTHOR : Susan G. Kains **DATE OF COMPLETION** 1978

INSTITUTION : Ohio State University

DEPARTMENT / PROGRAM :

THESIS ADVISOR : Gene Good

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : ERIC/SMEAC ED 162 845
SE 025 135

This masters thesis is a study of the possibilities of managing various insects for educational or esthetic purposes. The study focused on several insect groups: (1) butterflies, (2) ants, (3) ant lions, (4) tiger beetles, and (5) whirligig beetles. As part of the work on butterfly management a butterfly garden, complete with maintained mud puddles, was established and observed. The plants in this garden and the insects attracted to them are listed. Observations were recorded of the butterflies feeding on native wildflowers in the Clear Creek Valley area of Ohio and a butterfly census was taken in that area. In addition to the work done investigating the management of these insect groups, a rotting log study was done to record the succession of insects in such a microhabitat. For each of the sections of this thesis, which are like separate studies, introduction, methods, results, and discussion sections are given. Data are presented in tables. Some color photographs of insects are included as well. An index of scientific and common names of species mentioned in the paper is included. Appended is a publication generated from this work entitled "A Guide to July Butterfly - Wildflower Observing in Ohio's Clear Creek Valley and Several Adjoining Areas." (MR)

Environmental Education / Communication Project or Thesis Report Form

National Association for Environmental Education

Extending Environmental Learning Through a Visual-verbal Process: Some Activities For Second Grade Students Using Soil Animals

TITLE : Soil Animals

AUTHOR : Peter H. Debes **DATE OF COMPLETION** 1979

INSTITUTION : State University of New York, College of Environmental Science & Forestry

DEPARTMENT / PROGRAM : Graduate Program-Environmental Science, Env. Ed./Com.

THESIS ADVISOR : Dr. David Hanselman

ADDRESS OF AUTHOR :

WHERE FULL THESIS IS AVAILABLE : Moon Library, SUNY-ESF
Syracuse, NY 13210

A set of four activities is developed to help second grade students learn to identify eight common soil animals. The activities use simplified black and white line drawings of the following animals: spider, insect, daddy longlegs, centipede, millipede, earthworm, slug and sowbug. Ample repetition and a variety of responses are provided for in the activities including reading of the names, matching names with pictures, and cutting and pasting. The activities are developed in a logical fashion according to the principles of message design, field tested, and revised to improve their effectiveness in helping the learner achieve the stated objectives. Suggestions for collecting trips outdoors are given as well as some ideas for continuing activities to help students learn environmental science through the study of soil. A special bibliography of books and magazine articles on soil animals is included as an additional aid to instructors.

The goal of the thesis in developing these activities is to help meet the need for improved instruction in environmental science in elementary schools. This need is established by citing results of recent NSF funded studies of the status of science education in the U. S. and results of an informal survey conducted in three local school districts by the author. Other reasons for decreased science instruction in elementary schools are also cited.

GRADUATE PROGRAMS in Environmental Education and Communications

In 1979 we began listing graduate programs in environmental education and communications. All institutions contacted for thesis or project abstracts were asked to submit a brief statement describing their graduate programs in environmental education and communications. We have continued and expanded this service in this volume.

The following list includes the 34 programs listed in the 1979 volume, some modified by further information, and 17 additional programs from institutions responding within the past year. The information is reproduced in the following pages exactly as it was provided by the institutions. The programs are listed alphabetically by state and then by institution. The information is organized in the following manner:

Name of the institution
Division offering the program
Title of the program
(Degrees offered)

Name of the person at the institution who may be contacted for further information.

A brief description of the program.

We wish to thank all those who provided the information on their programs. We feel this listing is of great value to everyone working in environmental education and communications.

ALASKA

University of Alaska, Fairbanks

No graduate program has been developed yet.

CALIFORNIA

California State University, Hayward
Teacher Education Department
Curriculum Option with specialization in Environmental Education
(M.S.)

Esther P. Railton, Ed.D.
Teacher Education Department
California State University
Hayward, California 94542

A one year option for teachers and other environmental leaders; courses offered late afternoon and evenings. Curriculum, advanced educational psychology, research, project integration of e.e. into curriculum, resident, school sites and community learning experiences; local and world view of e.e. Program utilizes a California state grant funded resource/research laboratory.

San Francisco State University
School of Education
Environmental, Camping & Outdoor Education
(M.A.)

Dr. William Hammerman
ECO Education Program
San Francisco State University
1600 Holloway Avenue
San Francisco, CA 94132
415/469-2282

The study of the utilization of the outdoors and community resources as learning laboratories. Emphasis is placed on curriculum development, teaching strategies, and evaluation.
Knowledge and skills in Environmental, Camping and Outdoor Education may be used by teachers, recreation leaders and interpreters in designing innovative instructional programs, developing effective teaching techniques, and improving human understanding.

Stanford University
Department of Communications
(M.A., Ph.D.)

William Paisley, Assoc. Prof.
Department of Communication
Stanford University
Stanford, CA 94305

Students in the M.A. programs focussing on Journalism, Film, Broadcasting, or Communication Media and Social Change as well as students in the Ph.D. program in Communication Research can elect to conduct thesis research on problems of environmental communication such as the flow of environmental information to the public and to policy-makers. Alternatively, students may participate in the design of information systems or campaigns to improve the flow of environmental information.

COLORADO

Colorado State University
College of Forestry & Natural Resources
Conservation Education
(no grad. degrees indicated)

Dr. Charles L. Mahoney
College of Forestry & Natural Resources
Colorado State University
Fort Collins, CO 80523

No description of program given.

CONNECTICUT

University of Connecticut

No programs in environmental education/communication and none expected to be developed.

DELAWARE

University of Delaware
Area of Educational Development
Population-Environmental Education
(M.Ed)

Dr. Robert W. Stegner
134 C WHL
University of Delaware
Newark, Delaware 19711

Thirty graduate credits including 6 credits in natural sciences, 6 credits in social sciences, and 6 credits in education, plus 12 credits of electives appropiate to the background and interests of the student.

FLORIDA

Florida State University
Department of Curriculum & Instruction
Science Education (M.S.Ed.)
Social Studies Education (M.S.Ed.)

Rodney F. Allen, Professor
Social Studies Education

Ronald M. Good, Professor
Science Education

209 Education
Florida State University
Tallahassee, Florida 32306
904/644-6553

No specific program in environmental education is offered; however, master's candidates in science and social studies education can and may develop a program of studies with that focus. In fact, students are encouraged to do so.

GEORGIA

University of Georgia
College of Education
Adult Education (M.A.)
Science Education (M.A.)
Social Science Education (Ed.S)
Recreation & Leisure Studies (Ed.D.)

Professor R.N. Saveland
203 Dudley Hall
University of Georgia
Athens, Georgia 30602

Franklin College of Arts & Sciences
Geography Department (Ph.D.)

School of Environmental Design

School of Forestry

Institute of Ecology

No description of programs given.

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HAWAII

University of Hawaii, Manoa
Educational Foundations
Environmental Planning
(M.Ed., Ed.D.)

William H. Boyer, Dept. Chairman
College of Education
Educational Foundations
Wist Hall Annex 2, Room 222
University of Hawaii, Manoa
Honolulu, Hawaii 96822

Purpose: Understanding and applying concepts, solutions, alternatives to environmental problems in Hawaiian, Pacific, U.S. and world contexts. The approach is interdisciplinary. The program includes: 1) basic educational foundation courses; 2) environmental core courses; 3) selected all university courses; 4) intern-practicum in community, governmental or school setting. Minimum 30 hours with courses also available in the College of Arts and Sciences, College of Tropical Agriculture, and School of Public Health.

IDAHO

University of Idaho
College of Forestry, Wildlife, & Range Sciences
Interpretation/Communication
(B.S., M.S., Ph.D.)

Dr. James R. Fazio
Dr. Sam H. Ham
Dept. of Wildland Recreation Management
College of Forestry, Wildlife, & Range Sciences
University of Idaho
Moscow, Idaho 83843

Interpretation/communication is one of three curriculum options in the Department of Wildland Recreation Management. In addition to an introductory course in interpretive methods, majors take an applied laboratory course, at least 12 supportive electives, and practice interpretation with local school groups and through seasonal employment with land management agencies.
Work in environmental interpretation, environmental education or resource communications may be pursued through interdisciplinary studies leading to the M.S. in Wildland Recreation Management or to the Ph.D. Other areas of concetration include recreation planning, wilderness and dispersed recreation management, tourism, economics and others.

ILLINOIS

Governors State University
College of Arts & Sciences
Science Division
Science Teaching
Secondary (M.A.)
Community College (M.A.)
Elementary (M.A.)

Dr. Mohammed A. Kishta
Governors State University
Science Division
Park Forest South, IL 60466

Science teaching program is interdisciplinary in nature and competency-based program. The competencies focus on: a) science content, investigative abilities, information retrieval, and the history and philosophy of science; b) learning theories, curricular development, teaching skills and evaluation; and c) cultural diversity, humanistic values and perspective.

Northeastern Illinois University
College of Arts & Sciences
Dept. of Geography & Environmental Studies
Geography & Environmental Studies
(M.A.)

Karl A. Kriesel, Grad. Coordinator
Dept. of Geog. & Env. Studies
Northeastern Ill. Univ.
5500 N. St. Louis
Chicago, IL 60625

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Program is designed to provide advanced analysis of environmental and spatial systems. Included are ecological studies of human-environmental interrelations, studies of rapidly changing landscapes, locational studies concerning the geometrics of movement, size, shape and distance, and studies of environmental resources in terms of their interpretation, development and use. Urban land use planning sequence in also available.

Northern Illinois University
College of Liberal Arts & Sciences
see description
(M.S.)

Dr. Burley V. Bechdolt, Jr.
Office of Environmental Studies
Northern Illinois University
Dekalb, Illinois 60115

The university offers M.S. degree programs in the following departments whose programs make possible significant graduate work on environmental topics: Biological Sciences; Geography (emphasis in Natural Environmental Systems, Urban Economics, and Meteorology); Geology; Economics; Chemistry (Ph.D also); Physics; and Political Science (Ph.D. also).

Sangamon State University
Natural Sciences
Environments & People
(M.A.)

Dr. Malcolm Levin, Coordinator
Environments and People Program
Sangamon State University
Springfield, IL 62708

The principal emphasis of the M.A. degree in the Environments and People program is on providing professional education in environmental analysis and planning. Students are trained to order and to compare information, concepts and ideas in comprehensive and meaningful systems. Each student selects a concentration from one of the following: Environmental Administration, Environmental Economics, Environmental Land and Resource Planning, Environmental Methodology, and Individualized Environmental Study.

Southern Illinois University
Curriculum, Instruction, & Media
Science/Environmental Education
(M.S.Ed., Ph.D.)

Dr. Harold R. Hungerford, Prof.
Dr. Peter A. Rubba, Asst. Prof.
Science/Environmental Education
Dept. of C.I.M.
Southern Illinois University
Carbondale, Illinois 62901

Degrees in either elementary or secondary education with an emphasis in environmental education are offered. Masters' programs involve a minimum of 64 semester hours. Many opportunities exist for practicing internships, practicums, research, and cognate courses outside the College of Education.

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INDIANA

Ball State University
College of Sciences & Humanities
Dept. of Natural Resources
Graduate Studies
(M.S., M.A.)

Dr. Donald E. Van Meter
Dept. of Natural Resources
Ball State University
Muncie, IN 47306

The Dept. of Natural Resources offers a graduate major in natural resources leading to a Masters of Arts or a Masters of Science degree. A cognate (minor) in natural resources is also available for graduate students pursuing a doctoral degree in several other disciplines. Graduate programs are individualized for each person, with consideration given to the student's undergraduate academic background, professional experience, and future employment interests. (A specific program in Environmental Communications is being developed and should be implemented by 1980/81.)

Indiana University
School of Public & Environmental Affairs
Environmental Programs
(MSES)

J.C. Randolph, Director
SPEA Environmental Programs
400 E. 7th
Poplars 438
Bloomington, IN 47401

Most of the environmental programs of Indiana University emphasize the application of environmental science to the policy-making process. The approach is solution-oriented. Most programs provide a basic background, with varying emphasis, on technical skills, applied science, and knowledge of the political process. Students become specialists in particular aspects of environmental issues, yet have a broad perspective in terms of technical abilities and socioeconomic concerns.

KENTUCKY

Eastern Kentucky University
Dept. of Recreation & Park Administration
Recreation & Park Administration
(B.S., M.S.)

Dr. James McChesney
College of Health, Physical Education & Recreation
Dept. of Recreation & Park Administration
Begley 411
Eastern Kentucky University
Richmond, KY 40475

Degree in Recreation & Park Administration with opportunity to focus on outdoor/nature interpretation and recreation programs. No thesis requirement.

Murray State University
Dept. of Instruction & Learning
Education (emphasis Environmental Education)
(M.A.)

Terry L. Wilson, Director
Center for Environmental Education
Murray State University
Murray, KY 42071

The Center for Environmental Education in the College of Human Development and Learning offers the Master's degree in Education with an emphasis in Environmental Education. The program requires a minimum of 12 semester hours in environmental education. Internships and graduate assistantships are available.

MASSACHUSETTS

Northeastern University, Boston

In the process of redesigning the graduate program, and have not yet placed a specific priorty on environmental education.

University of Massachusetts

No programs in environmental educations and communications.

MICHIGAN

University of Michigan
School of Natural Resources
Behavior & Environment Program
(M.S., Ph.D.)

Dr. William B. Stapp, Chairperson
2006 Dana
School of Natural Resources
University of Michigan
Ann Arbor, MI 48109

The School of Natural Resources offers both an undergraduate and graduate program in Behavior and Environment. Students can specialize in Environmental Advocacy, Environmental Communications, Environmental Instruction or Outdoor Recreation. All four concentrations share common concerns. In each case, the student is asked to take course work in three areas: Theory and Concepts; Skill Acquisition; and Effecting Change. Students desiring work experience are also field placed.

MISSISSIPPI

Mississippi State University

None offered.

MISSOURI

University of Missouri, Columbia
Graduate School
Environmental Sciences
(M.S., Ph.D.)

Howard C. Hopps, M.D., Ph.D.
Committee Chairperson
Department of Pathology
School of Medicine
University of Missouri
Columbia, MO 65212

Emphasis is on a multidisciplinary approach to environmental problems -one that cuts across conventional disciplinary barriers. Programs are tailor-made to fit the individual student's needs, and are under the continual supervision of the Environmental Sciences Graduate Area Program Committee. Particular areas of strength include ecology, agricultural sciences, the physical sciences, including the Trace Substances Analytical Center, and sociological approaches to man-environment interaction.

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NEW YORK

State University of New York
at Brockport
Dept. of Biological Sciences
Biological Sciences
(M.S.)

Dr. Joseph C. Makarewicz
Dept. of Biological Sciences
113 Lennon Hall
SUNY Brockport
Brockport, New York 14420

The Dept. of Biological Sciences offers two plans for the Masters of Science Degree in Biological Sciences: Plan I (a thesis program) or Plan II (independent research experience in lieu of thesis). The expertise and experience of 26 faculty members service about 30 graduate students in several areas of research. Approximately 13 faculty are active in environmentally oriented research and teaching. The Department is well-equipped with both conventional instruments and a number of unique facilities (e.g. artificial streams). Field equipment for aquatic and terrestrial ecology are available including four boats. The close proximity of the Finger Lakes Region, Lake Ontario, the Adirondack Park of New York, and the 500 acres at Fancher Campus of SUNY Brockport provide ample sites for ecological research.

State University of New York
at Cortland
Division of HPER
Nature Recreation
Outdoor Education
Camping
(M.S., M.S.Ed.)

Dr. Linda R. Meyer
Coordinator, Graduate Program
Dept. of Recreation Education
A-310 PER Center
State University College, Cortland
Cortland, NY 13045

A program designed to give graduate level exposure to camping and outdoor education fields. Designed for teachers, camp administrators, nature recreation personnel, and outdoor educators in agency settings. Core of research methods, seminar in literature of recreation and research, administrative problems of camping, outdoor recreation, outdoor education, electives in arts and sciences and supporting areas.

State University of New York,
Syracuse
College of Environmental Science &
Forestry
Environmental Science
Environmental Education/Communication
(M.S., Ph.D.)

David Hanselman
Env. Education/Communications
Room 301 Illick Hall
SUNY-ESF
Syracuse, NY 13210

This college is upper division and graduate. M.S. and Ph. degrees in Environmental Education and Communications are pursued through interdisciplinary studies in the Graduate Program in Environmental Science. Each student, working with his/her professor, charts an individual program based on three criteria: depth in an appropriate subject area; breadth of educational experience; and synthesis of the components. The College is adjacent to Syracuse University and through a unique contractual arrangement, GPES-EE/C students have full access to resources of both ESF and SU. Of particular strengths are the wide array of course offerings in Environmental Science (including Social Science) and Public Communication.

NORTH CAROLINA

Duke University
School of Forestry &
Environmental Studies
Master of Forestry (MF)
Master of Environmental Management
(MEM)
Graduate School (MS, MA, PhD)

Benjamin A. Jayne, Dean
School of Forestry & Env. Sci.
Duke University
Durham, NC 27706

Two professional degrees (MF, MEM) are offered through the School of Forestry and Environmental Studies and are intended to provide students with education and experience for careers in resource management. Students interested primarily in teaching and research are urged to obtain the MS, MA, or PhD through the Graduate School. Areas of concentration are: Natural Resources Science/Ecology, Systems Science, and Economics/Policy. Additional opportunities are afforded by the Integrated Case Studies in Natural Resource Analysis program and the Center for Resource and Environmental Policy Research. Individualized programs and interdisciplinary study are encouraged.

University of North Carolina, Chapel Hill

No progam offered.

OHIO

Kent State University

No program offered.

Ohio State University
Division of Environmental Education
School of Natural Resources
Environmental Education
(M.S.)
Education Dept. (Ph.D.)

Dr. Robert Roth
246 Lord Hall
124 West 17th Avenue
Columbus, Ohio 43201

Master's candidates may propose their own program. The candidates progression of courses must be discussed with the graduate advisor prior to acceptance. Criteria fpr program acceptance includes coherence, and educational or communicational applicability. Courses from many departments are applicable and there is no limit to the number of courses or hours taken in other departments.

University of Cincinnati
Curriculum & Instruction
Environmental Education
(M.Ed., Ed.D.)

Dr. Thaddeus W. Fowler
Teachers College, #2
University of Cincinnati
Cincinnati, Ohio 45221

Indi dualized program in environmental education with major emphasis on environmentalizing the classroom and using community resources. There is strong cooprtation with the U.S. EPA and Cincinnati. A practicum is required.

PENNSYLVANIA

Pennsylvania State University
College of HPER
Recreation and Parks
(M.S., M.Ed., Ph.D., D.Ed.)

Herberta M. Lundegren
267 Recreation Building
Penn State University
University Park, PA 16802

The graduate program is designed to prepare students for administrative, supervisory, research and teaching positions in public recreation and park systems, in colleges and universities, in voluntary agencies, and in institutions. The program is oriented to meet the specific needs and research interests of each candidate.

Slippery Rock State College
Parks & Recreation
Environmental Education
(B.S., M.A.)

Dr. Craig C. Chase
Environmental Programs
Slippery Rock State College
Slippery Rock, PA 16057

This program, through course work and working experiences, is designed to provide students with a broad understanding of ecology and outdoor education and related subjects in education, communications and psychology. Teachers obtain a K-12 license in environmental education.

SOUTH CAROLINA

Clemson University
Recreation and Park Administration
Environmental Interpretation
(M.R.P.A.)

H. Jesse Grove, Assoc. Professor
Dept. of Recreation & Park Administration
Clemson University
Clemson, SC 29631

Clemson's Master of Recreation and Park Administration degree program is designed for persons who wish to increase their competence in providing leisure services. Curriculum flexibility permits individual development in professional interest areas including Environmental Interpretation. Students are prepared to function as interpreters themselves, or to effectively utilize the talents of staff members in the role of a recreation and park administrator.

TENNESSEE

East Tennessee State University
School of Public & Allied Health
Environmental Health
(M.S.E.H.)

Monroe T. Morgan, Dr.P.H., Professor & Chairman
Dept. of Environmental Health
P.O. Box 22960A
East Tennessee State University
Johnson City, TN 37601

Graduate education in environmental health is offered to prepare administrative and technical generalists for a variety of high level positions. Emphasis may include a variety of areas, such as epidemiology, water resources management, food sanitation, air pollution control, solid waste management, occupational safety and health, environmental analysis, and more.

University of Tennessee
Liberal Arts
Graduate Program in Ecology
(M.S.. Ph.D.)

Dr. Susan E. Riechert
Zoology Dept.
University of Tennessee
Knoxville, TN 37916

The Graduate Program in Ecology at the University of Tennessee is an interdepartmental program which utilizes resources of the College of Liberal Arts, Agriculture and Engineering to offer a balanced, in-depth, advanced education in contemporary ecology. At present, this program includes approximately 100 students and 50 faculty members and offers approximately 80 graduate courses in ecology and supporting fields.

TEXAS

Stephen F. Austin State University
School of Forestry
School of Education
Environmental Education
(M.S.,M.S.F.)

Dr. Michael H. Legg
Box 6109 SFA Station
Stephen F. Austin State U.
Nacogdoches, Texas 75962

A joint program through Forestry and Education oriented toward resource education. Program stresses field experience and practice.

Texas A&M University
Recreation & Parks Department
Recreation & Resources Development
MAg., MS, PhD)

Dr. John W. Hanna
Recreation & Parks Department
TAMU
College Station, TX 77843

Graduate course offerings in the Department of Pecreation and Parks are designed to identify and provide scientific solutions to current and possible future problems encountered by administrators, educators, and professional practitioners. The focus is upon the total leisure environment and its resource base, employing the most current valid and reliable techniques and methods of research and evaluation. This encompasses fundamental and practical concepts associated with the planning and administration of recreation and park areas and systems, including studies in comprehensive recreation resource planning, quality and carrying capacity, user preferences and demand, agency administration, and alternative methods for meeting leisures needs.

UTAH

University of Utah
Dept. of Communication
Communication
(M.A., M.S., Ph.D.)

Robert K. Avery, Director of Graduate Studies
Dept. of Communication
University of Utah
Salt Lake City, Utah 84112

The department of communication at the University of Utah provides a broad-based theoretically oriented graduate program in communication studies. A primary area within the program is policy research and matters directly related to policy research. Environmental education studies within a communication theory framework are strongly encouraged.

VERMONT

University of Vermont
School of Natural Resources
Natural Resources Planning (M.S.)

College of Education & Social Serv.
Teacher Education (M.Ed.)

Thomas R. Hudspeth
Environmental Program
University of Vermont
153 S. Prospect
Burlington, VT 05405

Emphasis in Environmental Interpretation as part of a 30-hour program in Natural Resource planning (M.S. degree) in the School of Natural Resources.
Emphasis in Environmental Education as part of a 30-hour program in Teacher Education (M.Ed. degree) in the College of Education and Social Services.

VIRGINIA

University of Virginia
Art and Sciences
Dept. of Environmental Sciences
(B.A., M.S., M.A., Ph.D.)

George M. Hornberger, Chairman
Dept. of Environmental Sciences
University of Virginia
Charlottesville, VA 22903

In 1969 the University of Virginia established an interdisciplinary program in environmental sciences to further the understanding of natural and human environments, to foster scientific analysis of environmental issues and problems, and to develop a rigorous academic program for students interested in a comprehensive approach to questions of environmental quality. The department attempts to educate two types of person: a) those who wish to acquire a broad, thorough understanding of basic environmental phenomena and processes, and b) scientists who can make effective contributions to the fundamental knowledge of environmental systems.

WASHINGTON

University of Washington
College of Education
C & I: Environmental Education
(M.Ed.)

Dr. Roger G. Olstad
115 Miller DQ-12
University of Washington
Seattle, WA 98195

A program intended for certificated teachers who wish to specialize in environmental education during Master's degree study. It combines work in environmental studies with education, and includes independent study options for students to explore areas of particular interest.

Washington State University
Environmental Science Program
Environmental Science (BS, MS)
Regional Planning (MS)

William H. Funk, Chair
Troy Hall 305
WSU
Pullman, WA 99164

Environmental Science is a broad, interdisciplinary program concerned with the study of natural and modified environments and their interactions with the biological communities. Study emphasizes the comprehensive understanding of the environmental/ecological context, assessment of beneficial and distruptive impacts, and the methodologies to analyze, interrelate, and resolve these complex systems.

WEST VIRGINIA

West Virginia University
Division of Forestry
Recreation and Parks
(M.S.)

Dr. Gene Bammel
W.V.U.-Division of Forestry
Morgan, W. Va. 26506

The Division of Forestry of West Virginia University University offers a Master's Degree in Environmental Concerns through the Recreation and Parks Program. Policy, Land Management, Forest Management for Recreation are among the specializations offered. The candidate may take up to twelve hours in Public Administration, Political Science, or other cognates.

WISCONSIN

University of Wisconsin, Madison
Center for Environmental Communications & Education Studies
Environmental Communications
(M.A., M.S., Ph.D.)

Dr. Clay Schoenfeld, Chairman
Center for Environmental Communications & Education Studies
433 North Murray
University of Wisconsin
Madison, WI 53706

The Center for Environmental Communications and Education Studies is an informal consortium of faculty and students from a number of UW-Madison departments, devoted to appropriate cooperative teaching, research, and extension programs. The Center aids the professional training of specialists in environmental communications, sponsors studies of environmental communications media and methods, and provides various symposia and services.

Department of Agricultural Journalism
Natural Resources Communication
(MS)

John H. Fett, Chairman
440 Henry Mall
University of Wisconsin
Madison, WI 53706

To provide individually designed programs to equip natural resources professionals with better communications skills, journalists with more complete environmental knowledge, and both with an understanding of evaluation research.

Institute for Environmental Studies
Land Resources Program
(M.S., Ph.D.)

Dr. Arthur B. Sacks,
Administrator of Academic Programs
IES Instructional Program
70 Science Hall
550 N. Park Street
University of Wisconsin
Madison, WI 53706

Land Resources is an interdisciplinary program leading to the Master of Science in Land Resources and the Doctor of Philosophy with a major in Land Resources. The degree is especially designed for students who wish to broaden their field of knowledge related to land and natural resources or who, because of employment or other experience, find they need special training in the technical, social, or management aspects of land.

72 University of Wisconsin,
Stevens Point
College of Natural Resources
Environmental Education &
Interpretation
(B.S., M.S.)

Dr. Richard Wilke
College of Natural Resources
University of Wisconsin
Stevens Point, WI 54481

A graduate program leading to an M.S. degree in Natural Resources with an emphasis in either environmental education or environmental interpretation is offered at UW-Stevens Point. Graduate students at UW-Stevens Point not only have access to a wide variety of graduate courses in EE/EI, but also to both the University's environmental education center and its' interpretive center. Graduate assistantships are available.

WYOMING

University of Wyoming
Department of Geography
Community & Regional Planning
(M.P.)

Hans Bleiker, Ph.D. AICP
Director of Community &
Regional Planning
University of Wyoming
Laramie, WY 82071

No description provided.

CANADA

University of Calgary
Faculty of Environmental Design
Environmental Science
(M.E.Des.)

E. Sweetnam
Faculty of Environmental Design
University of Calgary
2920 24 Ave. N.W.
Calgary, Canada
T2N 1N4

The programme derives its conceptual cohesion less through the subject-oriented theoretical framework of traditional disciplines, and more through the topics, projects, or problems dealt with. It emphasizes the relationship of science (and technology) to the design or redesign of the environment to improve and/or maintain its quality.

University of British Columbia,
Vancouver
Resource Management Science
(M.Sc., Ph.D.)

L. M. Lavkulich, Chairman
Resource Management Science
University of British Columbia
3075 West Brook Mall
Vancouver, B.C., Canada
V6T 1W5

Program is an interdisciplinary program in resource management. Students may specialize in a number of concentrations viz land management, wildlife management, fisheries management, range management, water resources management and ecological policy analysis. New concentrations being developed include renewable energy and aqua culture. Programs are "tailor-made" for individual students to meet student desires as well as academic excellence.